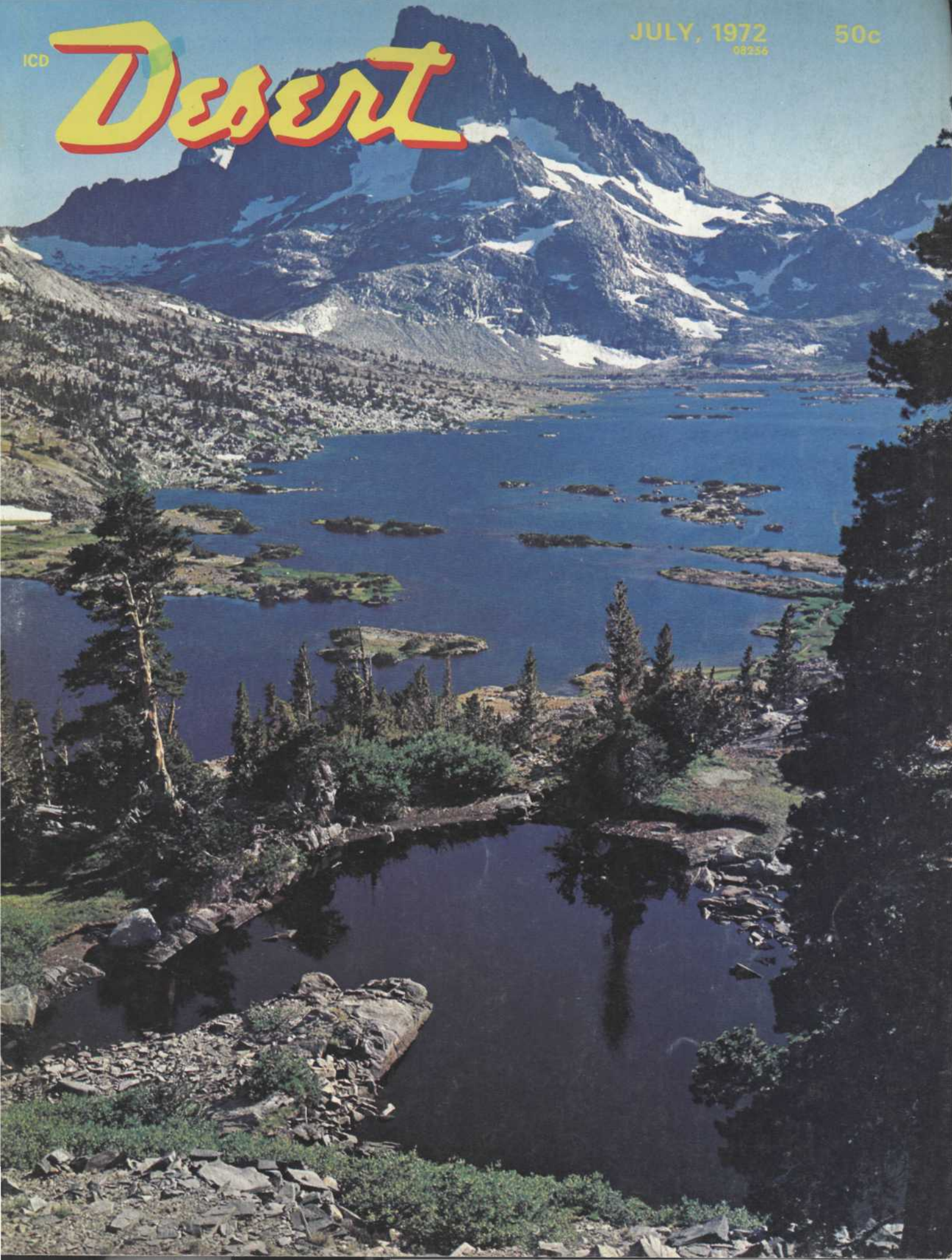


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Lofty Mt. Whitney



A Lazy Stream

Photos by Ed Warrensford

The Lost City of the Alabama Hills



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The trail to the top of 14,495-foot Mt. Whitney, highest point of the contiguous 48 states, is not too well marked and is rough in spots, but that did not prevent over 15,000 people, starting from Main Street and West Portal Road in Lone Pine, California, from attempting the climb to the top in 1970.

The road to Badwater in Death Valley, the lowest point in the western hemisphere, is an easy 2½-hour drive from the same spot in Lone Pine, California.

These two points are not the only attractions of Lone Pine, but they are certainly the most dramatic. As the point where your Eastern Sierra vacation begins; fishermen, hunters, hikers, rockhounds, bottle collectors, ghost town aficionados, prospectors, wildlife observers and for those who just want to relax, Lone Pine, California is the focal point for any and all of these pursuits. This year plan to attend the Lone Pine Stampede, an R.C.A. Rodeo and Parade, September 23 and 24.

Lone Pine is just 186 miles north of Los Angeles on the Pan Am Highway 395, which stretches from the Mexican border to the Canadian boundary.

One great point to remember: Vacations never end in Lone Pine. The winter season in Death Valley, year-round fishing in the Owens River, hundreds of back country lakes and streams, reached by pack horse, or on foot, one of the finest 9-hole golf courses in California, are ready and waiting just for you.

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JACK DELANEY, *Staff Writer*



Volume 35, Number 7

JULY, 1972

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THE COVER:

Thousand Island Lake with 13,000-foot Banner Peak in the background is nestled in the Sierra Nevada near Mammoth Lakes in California's Inyo County. The John Muir Hiking Trail winds past this and dozens of other lakes in the scenic summer vacation land. Side roads and hiking trails can be reached along U. S. Highway 395. Photo by David Muench, Santa Barbara, California.

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ELTA SHIVELY, *Executive Secretary*

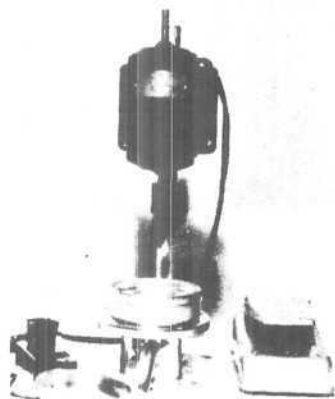
MARVEL BARRETT, *Circulation Manager*

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A Peek in the Publisher's Poke

SPEAKING EDITORIALY, during the summer months *Desert Magazine* heads for the hills and the cooler climes. These issues are designed to reach our readers in time to aid families to plan their extended weekend excursions and summer vacations.

The majority of the May issue was devoted to southern Utah and northern Arizona. In June we featured two trips to Oregon and northern California for rockhounds and explorers, and Stan Jones finished his two-part series on how to fish Lake Powell.

In this issue we capitalized on Mary Frances Strong's knowledge of the Sierra Nevada and the areas of interest for fishermen, rockhounds, history buffs and explorers along U.S. Highway 395. Her material was so interesting and diversified we finally decided to present it in four separate articles. Long-time followers of Mary Frances Strong know her detailed articles and maps provide rewarding trips and experiences.

In next month's issue (August) Enid C. Howard, our Utah Associate Editor, follows the New Navajo Trail through Utah, New Mexico and Arizona and provides a first-hand account of Indian trading posts—including the Hubbell Trading Post which was recently designated as a National Historic Site. She also visits scenic and historic areas such as Canyon de Chelly.

In the September issue, Editor Jack Pepper will describe how a "desert rat" becomes a "river runner" as he rides the rapids of Cataract Canyon of the Colorado River whose turbulent waters cascade through the sheer sandstone escarpments of Canyonlands National Park. These rapids were first explored by Major John Wesley Powell 100 years ago.

And for those who have missed our lost mine and treasure articles, we have some new ones scheduled—the first of which will appear in next month's issue. We would like to print a lost mine article in every issue—and would if we were not running into obstacles. The obstacles are the continual closing of private and public lands. Many of the lost mine and hidden treasure areas which were open to exploration only five years ago today are closed.

So our articles on lost mines must be completely researched before we publish them. We will not send our readers out on a metal-detector safari only for them to find an area closed and their weekend trip ending in frustration.

Which brings us to the article in this issue on Secretary Rogers C. B. Morton's dedication of 19 "recreational sites" and our editorial, *Time is Running Out* in which we urge our readers to express their views. We also stated in the editorial that manufacturers of off-road vehicle equipment should join in the fight to keep our public lands open. The day after we wrote the editorial we received a release from the American Motors Corporation that they have published a booklet, "Your Land, Your Jeep and You," designed to promote awareness among off-road drivers of the need for care and protection of our environment." It's believed to be the first publication of its kind issued by a vehicle manufacturer.

Written by Ed Zern, internationally-known outdoors writer and conservationist, the booklet seeks understanding of the geological processes in wilderness areas.

He urges careful use of recreational vehicles in off-road situations because "already the agencies that regulate the use of public lands—the Bureau of Land Management, the Forest Service, the National Park Service, the Fish & Wildlife Service and all the state conservation agencies—have begun to draw up rules limiting the use of off-road vehicles."

Copies of the booklet are available without charge from American Motors Corporation, Department JB, Detroit Michigan 48232.

William Knapton

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HAPPY WANDERER TRIPS by Slim Barnard. Well-known TV stars, Henrietta and Slim Barnard have put together a selection of their trips throughout the West from their Happy Wanderer travel shows. Books have excellent maps, history, cost of lodging, meals, etc. Perfect for families planning weekends. Both books are large format, heavy paperback, 150 pages each and \$2.95 each. Volume One covers California and Volume Two Arizona, Nevada and Mexico. **WHEN ORDERING STATE WHICH VOLUME.**

DUTCH OVEN COOKBOOK by Don Holm. Wildlife editor of the Portland Oregonian, the author has spent his life exploring and writing about the outdoors, so his recipes for preparing food in a Dutch Oven come from experience. If you haven't had food cooked in a Dutch Oven, you haven't lived... and if you have you will find these recipes new and exciting culinary adventures—as well as his style of writing. Heavy paperback, 106 pages, \$3.95.

CALIFORNIA by David Muench and Ray Atkeson. Two of the West's greatest color photographers have presented their finest works to create the vibrations of the oceans, lakes, mountains and deserts of California. Their photographic presentations, combined with the moving text of David Toll, makes this a classic in Western Americana. Large 11x14 format, heavy slick paper, hardcover, 200 4-color photographs, 186 pages, \$25.00.

LOST MINES OF THE GREAT SOUTHWEST by John D. Mitchell. The first of Mitchell's lost mine books is now available after having been out of print for years. Reproduced from the original copy and containing 54 articles based on accounts from people Mitchell interviewed. He spent his entire adult life investigating reports and legends of lost mines and treasures of the Southwest. Hardcover, illustrated, 175 pages, \$7.50.

NEVADA GHOST TOWNS AND MINING CAMPS by Stanley W. Paher. Covering all of Nevada's 17 counties, Paher has documented 575 mining camps, many of which have been erased from the earth. The book contains the greatest and most complete collection of historic photographs of Nevada ever published. This, coupled with his excellent writing and map, creates a book of lasting value. Large 9x11 format, 700 photographs, hardcover, 492 pages, \$15.00.

MOCKEL'S DESERT FLOWER BOOK by Henry and Beverly Mockel. The well-known painter of desert wildflowers has combined his four-color sketches and black and white photographs to describe in detail so the layman can easily identify wildflowers, both large and small. Microscopic detail makes this an outstanding book for identification. Special compressed fiber cover which will not stain. 54 full-color illustrations with 72 life-size drawings and 39 photographs, 316 pages, \$5.95.

EXPLORING DEATH VALLEY by Ruth Kirk. Good photos and maps with time estimates from place to place and geology, natural history and human interest information included. Paperback, \$1.95.

COLORFUL DESERT WILDFLOWERS by Grace and Onas Ward. Segregated into categories of red, blue, white and yellow for easier identification, there are 190 four-color photos of flowers found in the Mojave, Colorado and Western Arizona deserts, all of which also have common and scientific names plus descriptions. Heavy, slick paperback. \$4.50.



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Four-wheel-drive trips into the back country of the eastern slope of California's Sierra Nevada range are described in detail by veteran explorer Roger Mitchell. All of the trails are on government land but, regulations vary, so he also describes what you can and cannot do in each area. Ten different trips with detailed road mileage and maps. Designed to put in glove compartment of your vehicle. Paperback, 36 pages.

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DEAD MEN DO TELL TALES by Lake Erie Schaefer. A sequel to **BURIED TREASURE & LOST MINES** by Frank Fish, the author knew Fish for many years and claims he was murdered. Her book adds other information on alleged lost bonanzas, plus reasons why she thinks Fish did not die a natural death as stated by the authorities. Paperback, illustrated, 80 pages, \$3.00.

LOST MINES & BURIED TREASURES ALONG THE OLD FRONTIER by John D. Mitchell. The second of Mitchell's books on lost mines which was out-of-print for many years is available again. Many of these appeared in *DESERT* Magazine years ago and these issues are no longer available. New readers will want to read these. Contains the original map first published with the book and one pinpointing the areas of lost mines. Mitchell's personal research and investigation has gone into the book. Hardcover, 240 pages, \$7.50.

COMMON EDIBLE & USEFUL PLANTS OF THE WEST by Muriel Sweet. A description with artist drawings of edible (and those not to touch) plants along with how Indians and pioneers used them. Paperback, 64 pages, \$1.50.

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DESERT GEM TRAILS by Mary Frances Strong. *DESERT* Magazine's Field Trip Editor has revised and brought up to date her popular field guide for rockhounds. She has deleted areas which are now closed to the public and added new areas not covered before. The maps have also been updated. This is the "bible" for both amateur and veteran rockhounds and back country explorers. Heavy paperback, 80 pages and still the same price, \$2.00.

GOLDEN MIRAGES by Philip A. Bailey. Out-of-print for more than 20 years, this was a collector's item. A valuable book for lost mines and buried treasure buffs, it is beautifully written and gives first-hand interviews with old-timers long since passed away. Excellent for research and fascinating for arm-chair readers. Hardcover, illustrated, 353 pages, \$9.95.

GHOSTS OF THE GLORY TRAIL by Nell Murbarger. A pioneer of the ghost town explorers and writers, Miss Murbarger's followers will be glad to know this book is once again in print. First published in 1956, it is now in its seventh edition. The fast-moving chronicle is a result of personal interviews of old-timers who are no longer here to tell their tales. Hardcover, illustrated, 291 pages, \$7.00.

BURIED TREASURE & LOST MINES by Frank Fish. One of the original treasure hunters provides data on 93 lost bonanzas, many of which he personally searched for. He died under mysterious circumstances in 1968 after leading an adventurous life. Illustrated with photos and maps. Paperback, 68 pages, \$2.00.

LAND OF POCO TIEMPO by Charles F. Lummis. A reprint of the famous writer and historian of his adventures among the Indians of New Mexico. Lummis was one of the foremost writers of the West. Paperback, 236 pages, \$2.45.

THE WEEKEND GOLD MINER by A. H. Ryan. An electronic physicist "bitten by the gold bug," the author has written a concise and informative book for amateur prospectors telling where and how gold is found and how it is separated and tested, all based on his own practical experience. Paperback, 40 pages, \$1.50.

CORONADO'S CHILDREN by J. Frank Dobie. Originally published in 1930, this book about lost mines and buried treasures of the West, is a classic and is as vital today as when first written. Dobie was not only an adventurer, but a scholar and a powerful writer. A combination of legends and factual background. Hardcover, 376 pages, \$3.95.

SELDOM SEEN SLIM by Tom Murray. Profiles and vignettes of the colorful "single blanket jackass prospectors" who lived and died as they looked for gold and silver in Death Valley. Slick paperback, exclusive photos of the old-timers, 65 pages, \$3.00.

DESERT OVERVIEW MAPS by Wes Chambers. Using topographic maps as basic underlays, Wes has compiled two excellent detailed maps for back country explorers of the Mojave and Colorado Deserts. Maps show highways, gravel roads, jeep trails plus historic routes and sites, old wells, which are not on modern-day maps, plus ghost towns, Indian sites, etc. Mojave Desert Overview covers from U.S. 395 at Little Lake to Boulder City, Nevada, to Parker Dam to Victorville. Colorado Desert Overview covers from the Mexican border to Joshua Tree National Monument to Banning to the Arizona side of the Colorado. \$3.00 each. Be certain to state which map (or both) when ordering.

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Book Reviews

by Jack Pepper

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THE MIGHTY SIERRA

By Paul Webster



As described in several articles in this
issue, the majestic Sierra Nevada towers
into the Western sky for several hundred
miles in central California. Once a forbid-
ding mountain which claimed the lives of
early pioneers and argonauts, today it is a
vast winter and summer recreation land.

Described by geologists as a "fault
block" range, it rises out of the desert to
the east in a steep escarpment and then
slopes gently into California's Central Val-
ley on the west. It also contains Mount
Whitney, the highest point in the contigu-
ous forty-eight states.

Subtitled "A Portrait of a Mountain
World," this book is the dramatic story of
majestic peaks and scenic valleys, lakes
and rivers and streams cascading down the
mountain slopes to the desert valley below.

It is also the story of man and the
mountain; of the Indians who first lived
in the Sierra; the emigrants who blazed
trails across its barrier; the miners, ranch-
ers and railroaders who sought fortunes
in the mountains; and, finally, the conflict
between the conservationists who want to
keep the mountain in a pristine state and
the thousands of families who use the
range as a weekend playground.

The author, who has spent much of his
life exploring the Sierra, has also includ-
ed a Guide to the Sierra, an extensive glos-
sary and a useful bibliography. It is a vol-
ume to read and re-read for those who
already love the Sierra Nevada and a new
adventure for those who have yet to dis-
cover it.

Large 8½ x 11 format, heavy mat paper, hardcover, more than 70 four-color and 90 black and white photographs, plus maps and art illustrations, 288 pages, \$13.95 until Dec. 31, 1972, then \$17.50.

GUIDEBOOK TO THE SAN JACINTO MOUNTAINS

By Russ Leadabrand



The author's *Guidebook to the Sunset Ranges of Southern California*, first published in 1965, has long been a favorite for those planning trips into the mountains of Orange, Riverside and San Diego Counties.

Since then Leadabrand has amassed so much more material and updated his research, he is writing separate books on the various ranges. His new *Guidebook to the San Jacinto Mountains* is the first of that series. The volume not only includes the San Jacinto Mountains but also covers the Desert Divide Country, Cahuilla Mountain, Thomas Mountain and a portion of the Santa Rosa Mountains.

It also has a chapter on the Palm Springs Aerial Tramway and other attractions not in existence when his first book on the area was published. Although basically an automobile travel guide, it also includes brief descriptions of hiking trails.

Several pages of old photographs, along with a history outline, enhance the traveler's interest as he follows the highways and byroads through this scenic mountain range in California's Riverside County.

For travelers coming from Los Angeles to the Palm Desert area or those coming to the desert from San Diego, this book offers many interesting summer trips. Heavy paperback, illustrated, 102 pages, \$1.95.

Books reviewed may be ordered from the DESERT Magazine Book Shop, Palm Desert, Calif. 92260. Please include 50c for handling. California residents must add 5% sales tax. Please enclose payment with the order.

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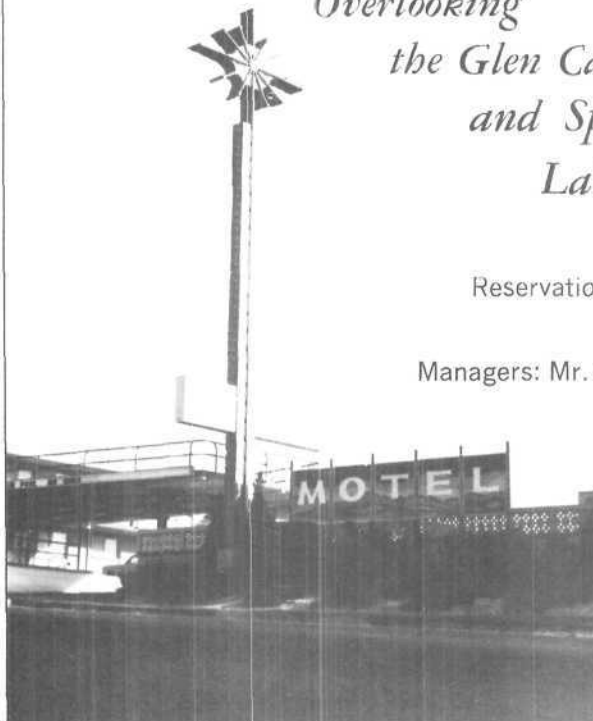
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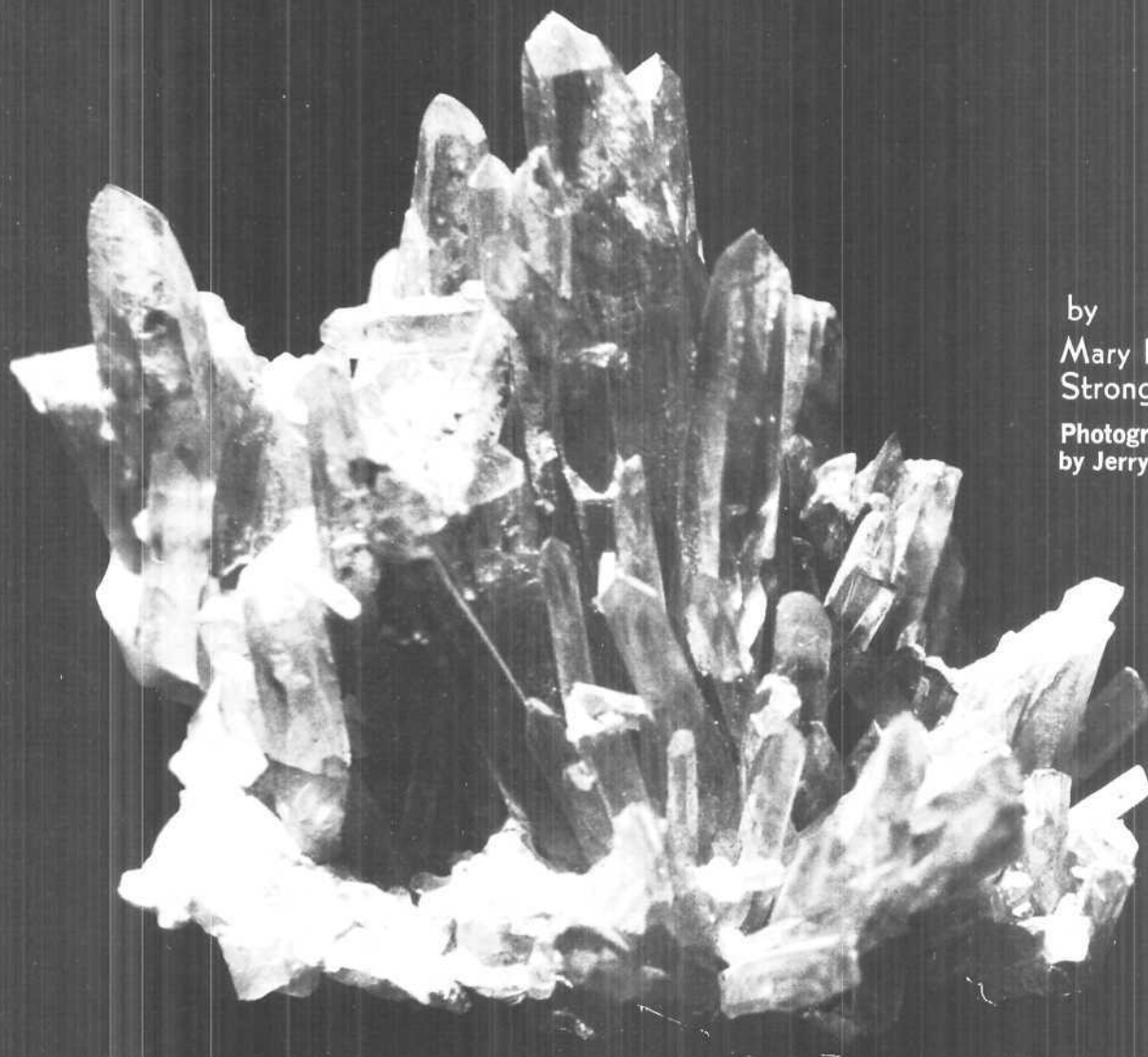


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Inyo's Crystal Ridge

by
Mary Frances
Strong

Photography
by Jerry Strong



A California Field Trip

Smoky quartz crystals (right) at Location B (see map on Page 11) require hard-rock mining. Note large crystals on rounded quartz matrix in center of photo. Best specimens (below) are obtained by prying into shattered quartz vein. Author uses whisk broom to brush away loose dirt and reveal crystals.

PREHISTORIC MAN was evidently the first collector of gems, since clear, quartz crystals have been found among his artifacts. These beautiful crystals, often called "the flowers of the mineral world," also intrigued early man, and today they fascinate the rockhound.

Quartz crystals are not uncommon but deposits where unusual specimens occur are infrequent. One such location is Crystal Ridge, lying along the base of the Inyo Mountains, east of Independence, California.

By using a little patience and perseverance, combined with digging and screening, rockhounds can add several interesting "gems" to their collections. Along with the fun of rock hunting, they will also be treated to the magnificent panorama of the Owens Valley.

The most direct, and best route to Crystal Ridge is via Black Rock Springs Road (formerly Coliseum Road), 8.4 miles north of Independence on U.S. Highway 395. The road is good except for a short stretch up a rocky wash a half-mile from Crystal Ridge. It can readily be negotiated by pickup and cars—if not too low slung.

Black Rock Springs Road is paved and gently curves north. Just prior to the State Fish Hatchery, turn right on a dirt road and cross the Los Angeles Aqueduct. After a left turn, followed by a right, the dirt road wanders easterly across the valley floor to a broad canyon in the Inyo Mountains. (See map for detailed mileages.)

This is cattle country and many cows with calves winter in the area. When we were here in March '72, we saw numerous cows with newborn young. It struck us as unusual to see a majority with twins and one cow had triplets. Could it be they have been taking fertility pills?



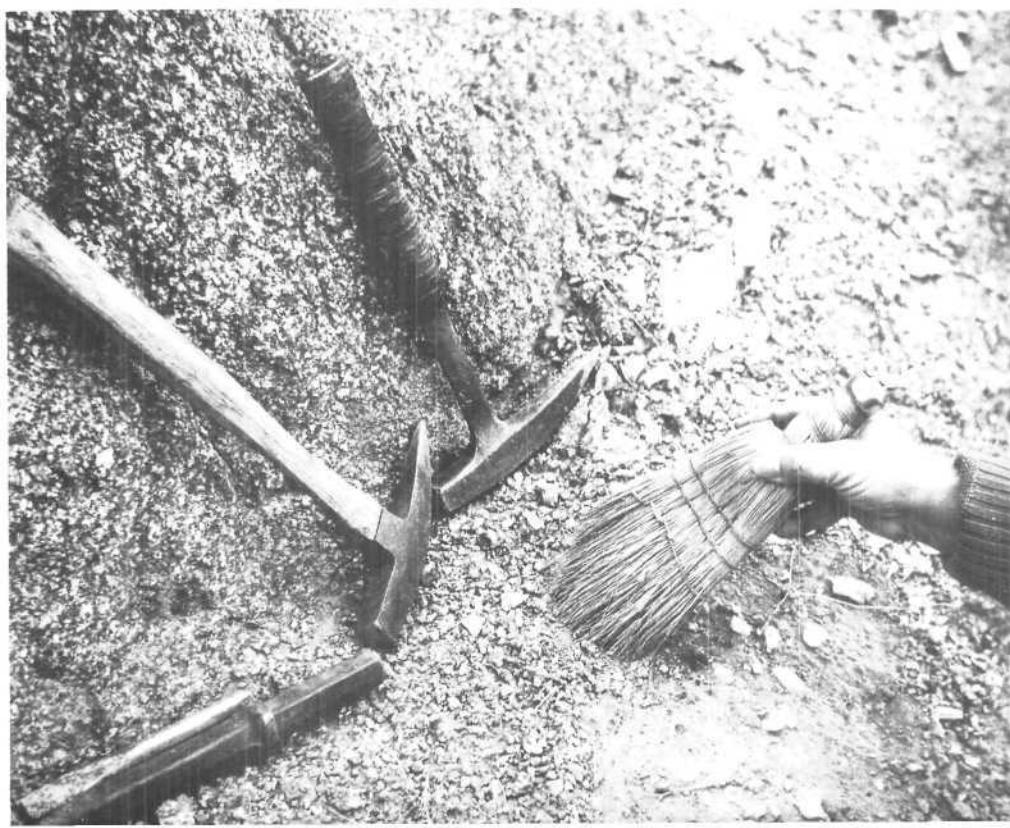
Several sloughs are passed and three miles from the aqueduct the old railbed of the "Slim Princess," the famed narrow-gauge railroad, is crossed and a junction made with the Eastside Road.

Sixty years ago, the Owens River ran free and meandered through this great valley. It was a region of many meadows and sloughs. Game was plentiful and Indians had occupied the area over a long period of time.

Only a few sloughs remain but ducks and other migratory birds often rest here.

Late one March we watched several hundred snow geese take to the air, circling and circling ever higher until they were out of sight and northward bound. It was thrilling sight!

The Eastside Road is now crossed and immediately the road Ys. Keep right. The left branch leads to an old shack and gold prospect. We found no gold but did observe a little copper ore. The Inyos have been heavily prospected since 1860 and nearly every canyon has an old mine or two. Some have been abandoned but many



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From Crystal Ridge there is a magnificent view of the Sierra Nevada, which is snow-capped most of the year, and Owens Valley below.

are still privately owned. Do NOT disturb any buildings or equipment. Even though the property is not posted—vandalism is illegal.

The road now continues up a broad alluvial fan, jogs right then left, enters a wash and follows it to a small hanging valley and Crystal Ridge.

The ridge is part of a granitic mass intruding a series of thick, complexly faulted and folded sedimentary rocks, which along with Triassic volcanics, form the Inyo Mountains. The age of the series extends from the Cambrian through the Triassic.

Crystal Ridge is an exposed group of parallel quartz veins and connecting quartz stringers in a quartz-monzonite block. Small cavities occur throughout the mass and, due to a local abundance of mineralizers, well-defined crystals of component minerals have formed in the cavities. The quartz minerals predominate but spectacular hematite, chlorite, hornblende and epidote also occur.

LOCATION A

This deposit contains quartz crystals in a wide variety of forms ranging from very slender, 1/4-inch, doubly-terminated crystals to larger ones four inches long and thumb-size in girth. Generally, deposits of this type do not yield extremely large crystals as the conditions for development makes them intertwine in the cavities where they form a crystal mass.

Numerous vugs and plates, as well as small clusters and single crystals have been exposed by erosion. Screening the talus

under the outcrops yields single crystals of various sizes. Some are clear and of faceting quality. Prying out chunks of the shattered quartz will reveal the plates and vugs. A 1/4-inch mesh screen, pick, shovel, chisel and whiskbroom are effective tools.

The beauties to look for (other than the faceting grade) are crystals 1 to 3 inches in length. They are clear except for their terminations which are "sprinkled" with chlorite or specular hematite. The chlorite gives the crystals the effect of having been dipped in "gold dust" while the hematite gives a shiny metallic effect. They are very showy specimens.

Groups of small quartz crystals (1/2 to 1 inch) on matrix will be found with rosettes of specular hematite deposited sparingly upon them. Watch for plates of crystals stained a deep, red-brown and occasionally some that are a pale amethyst in color.

LOCATION B

This deposit is a half-mile south of the first diggings near the crest of the ridge. Groups of very dark, smoky quartz crystals will be found on matrix. This is hard rock mining. The tools required are a sledge, pry bar, chisel, shovel and strong back. A few single crystals have also been found here.

Camping at Crystal Ridge is a bit of a problem for trailers and, possibly motorhomes due to the short, rocky sections of road near the head of the wash. We have taken a 15-foot trailer into the collecting area. However, it required a bit of road

work. We didn't attempt to take our 22-footer in this spring.

Condition of the wash will change after a heavy storm. It's not advisable to take trailers and motorhomes beyond .7 of a mile from the Eastside Road. A fair camping area will be found here on the alluvial fan.

Big groups and even individuals should consider using Sawmill Creek Campground, .8 of a mile west of Highway 395. (See map.) This is a nice clean camp with creek water and sanitary facilities and it is only 5 miles from the collecting area.

There are several other points of interest in this general area. Those who enjoy back country exploring or trail bike riding, can travel the Eastside Road north to Aberdeen Road (approx. 10 miles), cross Owens River and join U. S. Highway 395 near Taboose Creek. Watch for obsidian-ites on the several, minute dry lakes along this route. We also found a number of points—one of clear quartz—in the vicinity of the dry lakes.

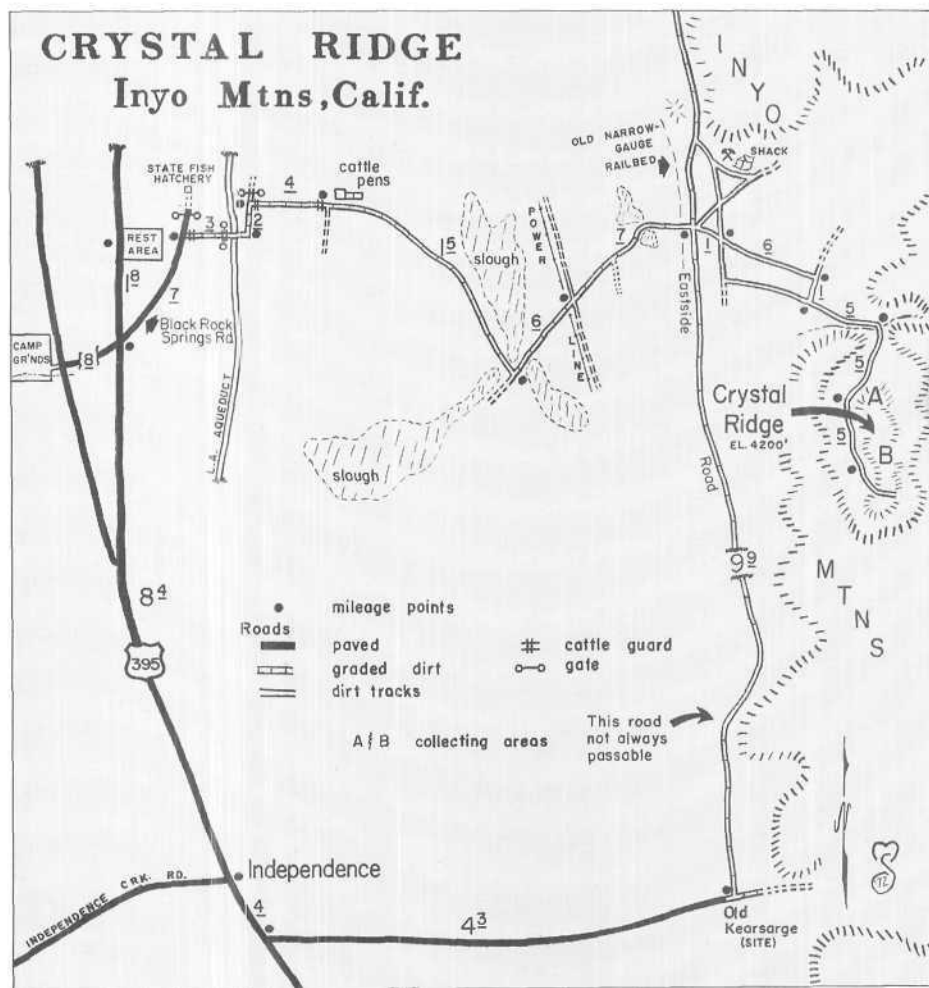
Going south, the Eastside Road eventually joins Mazourka Canyon Road at the site of old Kearsarge (Citrus) Station. You will pass the site of San Carlos

(1863) before reaching the canyon road and then, upon turning right you will drive through the site of Bend City (1863) as you head west to Highway 395 south of Independence. Bottle collectors have long ago dug these old sites. But now and then, someone turns up an old bottle.

If you haven't visited the Eastern California Museum at Independence, plan to do so. Though small, it is growing and has a number of outstanding collections of early days Owens Valley memorabilia. (See *Desert*, July, 71.) The Commanders House is also worthy of a visit. The Museum Association has recently refurbished it in 1860 style.

The fisherman will find the North and South Forks of Oak Creek, Independence, Symes and Goodale Creeks good streams in which to try his luck.

Central Owens Valley and its environs offer the outdoor enthusiast a fascinating region to explore: old mines and historical sites to visit; good fishing streams; excellent campgrounds and gem for the collecting. Spring, summer and fall it is an exciting area in which to spend a weekend, a week or even longer. Who could ask for more? □



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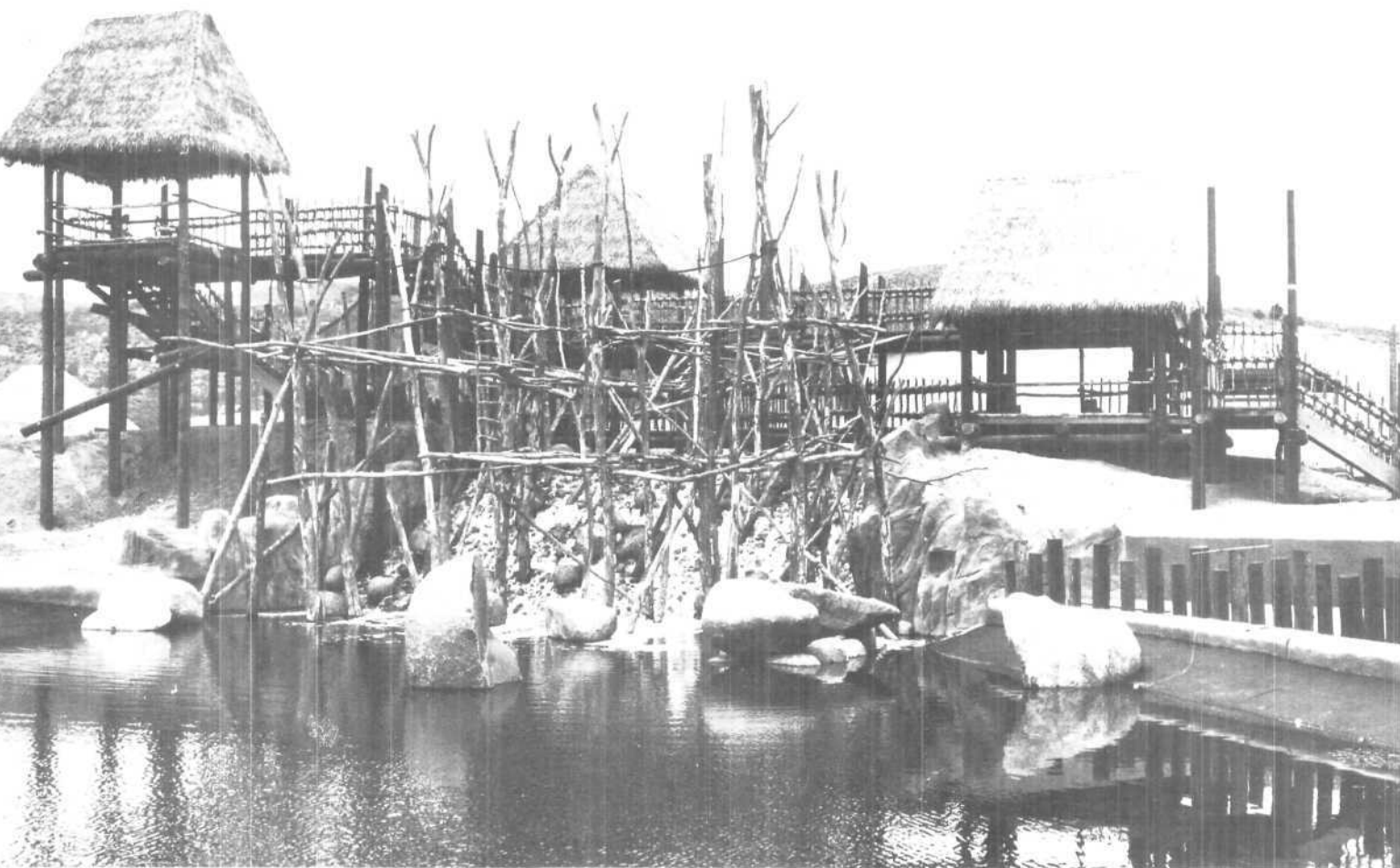


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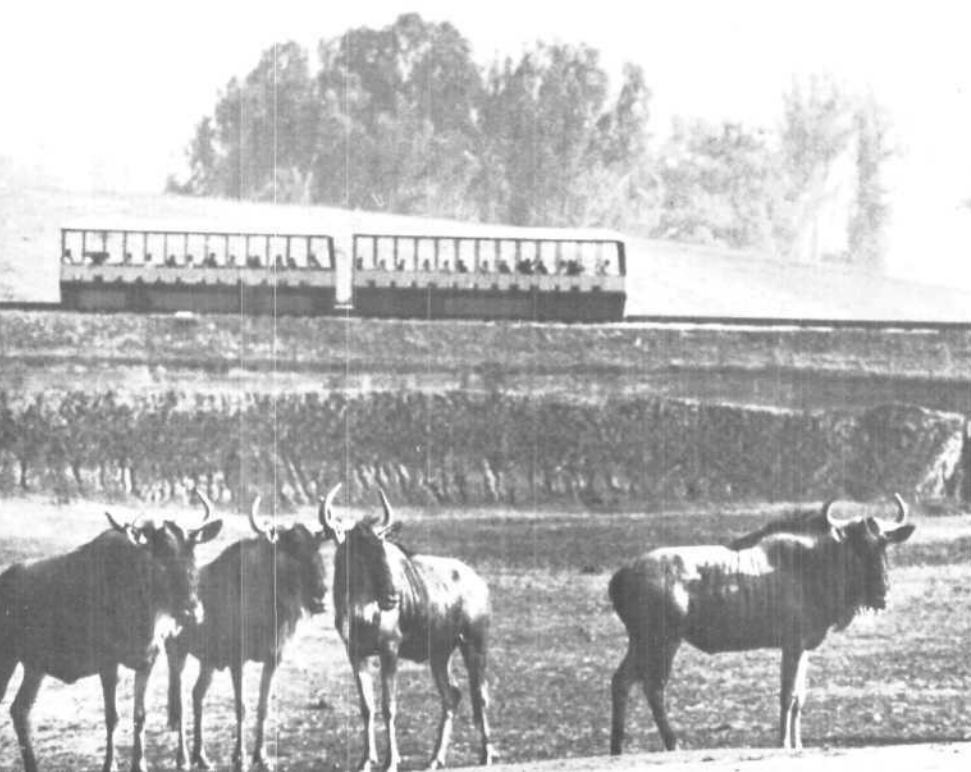
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Nairobi, U.S.A.



by Ernie Cowan



IN THE valley a white rhino slogs into a mud hole, as a quick gazelle gobbles up ground in a swift foot race nearby. Around the crest of the hill the WGASA Bush Line Railroad brings its load of passengers into Nairobi, California. That's right, California!

What sounds like and is a typical African scene is actually part of an exciting new development known as the San Diego

Replica of an African fishing village (above). White Bearded Gnu (left) stand before silent-running electric monorail train which takes visitors on a 5-mile guided tour of the new park.

Wild Animal Park. Within its 1,800 acres, the African Nairobi of the turn of the century has been recreated along with the plains and swamps of Asia, the bush of Eastern Africa and the wilds of North and South Africa.

This unique new zoo works on the concept of confining people and allowing the animals to roam over large areas resembling their native habitat. Although about 30 miles north of metropolitan San Diego, but still in the city limits, the park is a second campus of the world famous San Diego Zoo in Balboa Park.

The Wild Animal Park is located in San Pasqual Valley, about six miles south-east of the city of Escondido. San Pasqual is a scenic agricultural belt and the rolling hills that create the valley provide a magnificent setting for this interesting new wildlife attraction.

You can reach this bit of Africa by taking State Highway 78 east from Interstate 15 at Escondido. It takes about 30 minutes to reach the park from San Diego, and about two hours from Los Angeles.

Zoo director Dr. Charles Schroeder said the philosophy of the new wildlife park is basically to "provide an expansive conservation area and wildlife preservation center where animals roam together in natural environments."

Visitors to the park enter through the

*White
Rhinoceros
charges down
a hill in the
South Africa
section of the
San Diego
Wild Animal
Park. Zebras
(below) are
one of the
many animal
species seen.*



Rondavel, patterned after a chief's burial hut of east Africa. From here visitors enter the world's largest free-flight aviary, housing a collection of 300 birds. Most of these birds are from east Africa.

Admission to the park is \$1.25 for persons 16 and up. Children under 16 are free. Once inside the park, tickets for the WGASA Bush Line Railroad are \$1.50 for adults, \$1 for children 12 to 16, and 50 cents for 2 to 11.

The entry area of the Wild Animal Park is a duplication of Nairobi, Kenya, done in turn-of-the-century architecture. Paths in the village take visitors to exhibits such as the Komodo Dragon, lowland gorillas, a huge lagoon with shore birds and flamingos and a Congo River fishing village. The entry village also contains a scenic little restaurant known as the Mom-basa Cookery. This is one of two restaurants located here.

But the real safari begins when the

WGASA Bush Line Railroad leaves Nairobi Village on its five-mile loop through the park. This modern electric monorail takes visitors on a fascinating journey into the bush. During the ride you will see more than 1,000 animals in their natural settings. As the train curves and winds over the hill country you will see zebras, antelope and ostriches of the open plains, and gnu, lions, elephants, giraffes, and much more.

The park is a photographer's delight. The animals are not in wire cages and the pictures you take could have been taken in Africa as far as anybody can tell.

After the train ride, you return to the village where you can enjoy several more exhibits such as spider monkeys, the animal care center where you can see baby animals being cared for, and the Kraal, a special area where kids can meet face-to-snout with the smaller harmless animals of "Nairobi."

The May 10, 1972 opening of the San Diego Wild Animal Park marked the completion of over 13 years of planning

and work by San Diego Zoo officials and members of its zoological society. Ground was actually broken for the zoo in 1969 when a baby Asian elephant named Carol helped shovel the first spade of dirt in a remote canyon.

Four months later the first animals, a zebra, and a nilgai, were released into temporary quarters at the park. Since that time the animal population has increased many times, and there has even been some births.

Dr. Schroeder said the breeding of animals at the Wild Animal Park could become an important function of this vast wilderness zoo. One of the zoo's main objectives is to provide an opportunity for endangered and near extinct species to survive and reproduce.

Since 1900 more than 40 animal species have become extinct in the world. It is hoped the park can establish breeding stock of some rare animals and supply other zoos with these species.

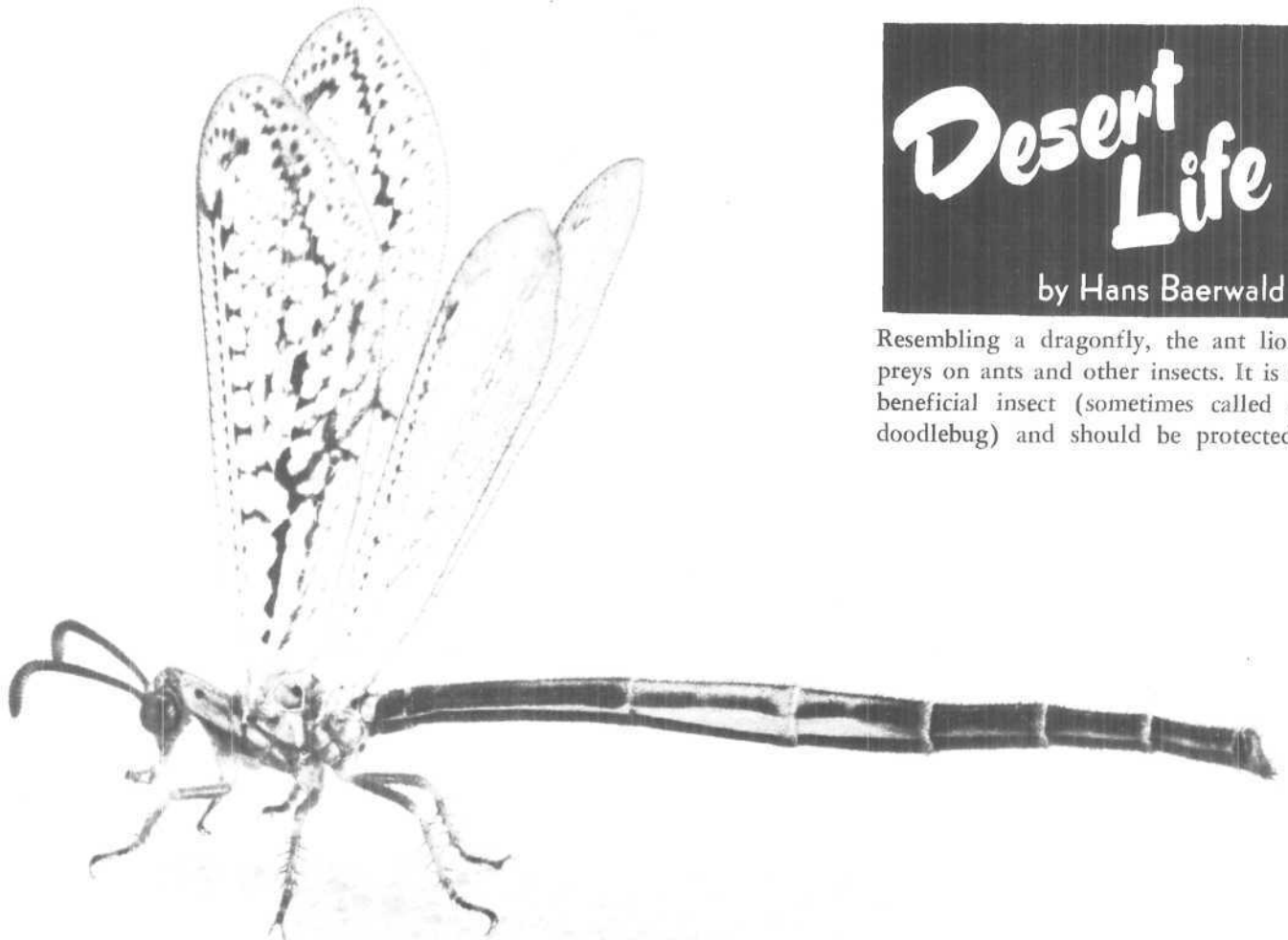
The Wild Animal Park now has a successful breeding program for the Preze-

walski's wild horse, an animal no longer found in the wild. Such efforts, as being conducted here could save this animal from oblivion.

I think you will find San Diego's new Wild Animal Park captivating and a place you will want to see again and again. Frankly, I had my doubts when the park was announced. I had wandered the hills where it was to be built and I didn't want to see them ruined by a "tourist attraction."

But I followed construction carefully and I met the men who were responsible for creation of this park. Men like Dr. Schroeder, Zoo Designer Charles Faust and Zoo Project Manager Harold Barr. I learned they cared about what they were doing. They cared about the animals and they cared about the environment.

The result of this care is a fine animal collection package in an interesting and humane environment. I think the San Diego Wild Animal Park will soon be ranked with the San Diego Zoo as one of the finest animal collections in the world. □



Desert Life

by Hans Baerwald

Resembling a dragonfly, the ant lion preys on ants and other insects. It is a beneficial insect (sometimes called a doodlebug) and should be protected.

Calendar of Western Events

JUNE 10 & 11, JACKPOT OF GEMS sponsored by the Reno (Nevada) Gem & Mineral Society. Exhibit Building of Reno Fairgrounds. Free admission. Special display of diamonds. Write Jean Parrish, 923 Gordon Ave., Reno, Nevada 89502.

JUNE 17 & 18, BARBED WIRE SHOW AND ANNUAL CONVENTION of the California Barbed Wire Collectors Association, Royal Palms Motor Hotel, 200 Union Ave., Bakersfield, Calif. Exhibits of antique barbed wire, fencing tools and associated material. Admission free. Write Herbert Rock, 1924 Haley St., Bakersfield, Calif. 93306.

JUNE 17-18—BLUFF ALL TRIBES INDIAN DAYS.

JUNE 18—NAVAJO RODEO. Frybread contest, foot and horse races. Competitive Indian dancing. Bluff, Utah.

JUNE 23-25, GEMS OF THE DESERT sponsored by the Mineralogical Society of Arizona and the Rocky Mountain Federation of Mineralogical Societies, Arizona State Fairgrounds, 19th & McDowell Streets, Phoenix, Arizona. More than \$1,000,000 in special gem and mineral displays. Dealers, swap tables, field trips. Write Robert Adams, 4222 E. Piccadilly Rd., Phoenix, Arizona 85018.

JULY 1-4, ANNUAL CACTUS & SUCCULENT SHOW sponsored by the Cactus and Succulent Society of America, Los Angeles State & County Arboretum, 301 N. Baldwin Ave. Free admission. Garden tours and special programs.

JULY 15 & 16, ANNUAL BEGONIA AND SHADE PLANT SHOW, Cabrillo Junior High

School, 1427 E. Santa Clara St., Ventura, Calif. Plant sales tables. Free admission and parking.

AUGUST 3-5, OLD MINERS DAYS CELEBRATION. Big Bear Lake, Calif. Write Big Bear Chamber of Commerce, Box 2860, Big Bear Lake, Calif. 92315.

AUGUST 12 & 13, GOLDEN GATEWAY OF GEMS sponsored by the San Francisco Gem and Mineral Society, Hall of Flowers, Golden Gate Park. Complete show with demonstrations.

AUGUST 12 & 13, MOUNTAINEER GEM CLUB'S 7th annual show, Big Bear City Fire Station, Highway 18, Big Bear City, California. Write Frank Bowes, Box 414, Big Bear City, Calif. 92314.

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CONTENTION CITY, Arizona Territory



by Jim Huie

ALMOST AS an afterthought, my partner and I decided to visit the old town site of Contention City, Arizona. We had visited many ghost towns in Southern Arizona, but for some reason this site had never appealed to us. So, armed with only an old map and just a passing interest, we started in that direction.

We stopped in Fairbank to ask directions and to see who we must contact to get permission to enter any private property involved. Fairbank is a small community consisting of a Post Office and a

few old homes that lies just south of old Contention City. Fairbank can be reached by going north from Tombstone on U.S. 80 and turning west on State 82 for about six miles.

Our search started and ended with Charlotte Blank. She not only runs the Post Office and a small refreshment concession, but she is somewhat of a local historian. Charlotte gave us directions and permission, but only after she had warned us about vandalism and digging for treasure. We had convinced her that we were armed only with cameras and not metal detectors and shovels. She said local ranchers had been having trouble because cattle were getting hurt in the numerous large holes that treasure hunters had left.

Her directions were very thorough to eliminate the need of bothering local ranchers with questions in case we got lost. People planning to enter Contention City should see Charlotte for the detailed instructions.

With permission to enter a matter of record, we started off to see Contention City, one of the six sister cities of Tombstone.

Ed Schieffelin's 1877 silver strike at

Tombstone spawned the need for stamping and processing mills for the ore that was being gouged out of the desert floor. Before the mines flooded, six sister cities were born with the purpose in life of serving Tombstone. All six cities, Charleston, Millville, Emery City, Fairbank, Grand Central Mill and Contention City were on the San Pedro River to make use of the water necessary to run the mill. Contention City was the northernmost of these frontier mill towns.

Bumping down the cow trail that served as a road, we met a car with occupants who were obviously enthusiastic about something. It was necessary for us to back up and pull off the road to allow them to pass and as we did, we became a captive audience to two men who had just found several treasures at the Contention City site.

The finds included an 1875 dime and an old .44 bullet, corroded but recognizable. The dime had been lying on the surface in what had been an old street. Now our interest was picking up and after short goodbyes and a few directions, we were off again.

We were in a four-wheel-drive and had no trouble fording the river. People in conventional cars will find it necessary to splash across on foot. With care, conventional cars can cover the entire route up to the river.



An 1875 dime and unfired .44 bullet were found at Contention City site.



Remains of Quiburi Mission which dates from about the late 1600s.

At one time a railroad spur line passed the site of Quiburi, but the tracks have now been hauled away and only the cinder bed remains. This road bed makes a good access road to Quiburi.

According to the men with the old dime, Contention City had contained three mills. We found evidence of two of them but time didn't permit a lengthy search so we never found the third.

The two that we did find were strewn with old fire bricks, metal plates and old timbers. At one site what appeared to be a furnace was etched into the hillside. Both mill sites had roads at the top of the hill where they apparently drove the wagon loads of ore to be able to dump into the the stamps. Small assay crucibles were scattered everywhere like leaves under a tree.

Contention City had apparently sprawled along the San Pedro River for about 400 yards but she had a peak population of only about 200 people. The post office was abandoned in 1888 and the town soon died, but in her heyday she had two stages coming to town, a chinese laundry, hotel and the usual frontier bill of fare.

Contention City had been a town in a rush, she had existed less than 10 years (1879-1888), and now we had to rush also because darkness was fast approach-

ing. So, knowing there was more to be seen, we reluctantly agreed to leave but we promised ourselves we would return someday and revisit Contention City, one of Tombstone's six sisters on the beautiful San Pedro River. □

Contention City turned out to be one of the most interesting sites we had visited. Many foundations, adobe walls, large timbers and an abundance of junk lay around. It was obvious that diggers had been through, but the ground was still covered with nuts and bolts and scores of square nails. Broken china and bottles were in evidence everywhere. Now we were sorry for our belated start because we knew from the map that a cemetery existed somewhere to the southeast.

Also, about a mile to the southwest on the bank of the San Pedro is a site known to the local people as "the mission." The "mission," upon visiting, contained many adobe ruins and had been an Indian village. The mission dates from the late 1600s and the time of the Jesuit priests. It is listed on an Arizona Historical Society map as Quiburi. One foundation was large enough to have been a chapel.

Jack and Mary Splane's

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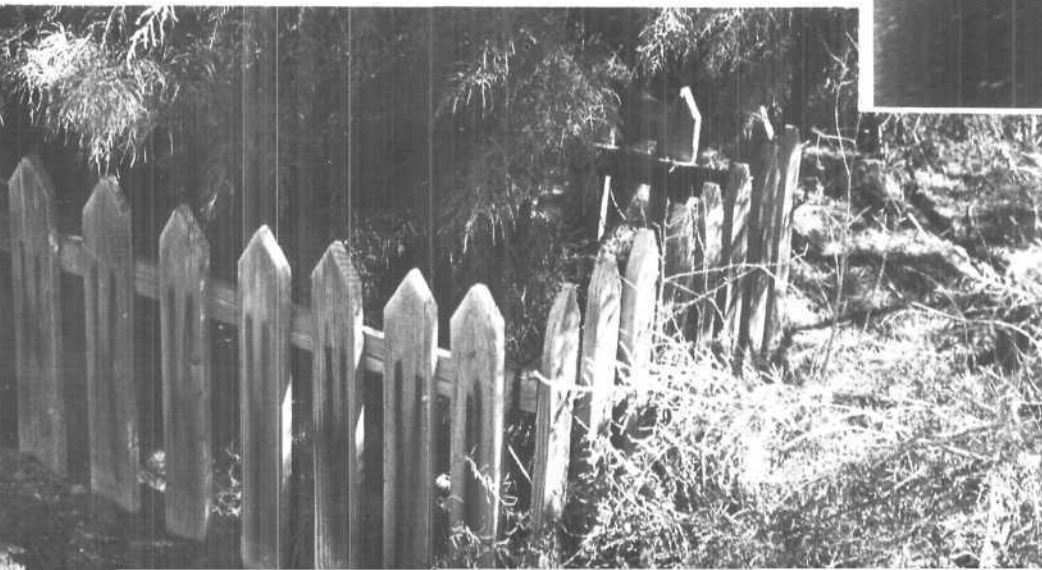
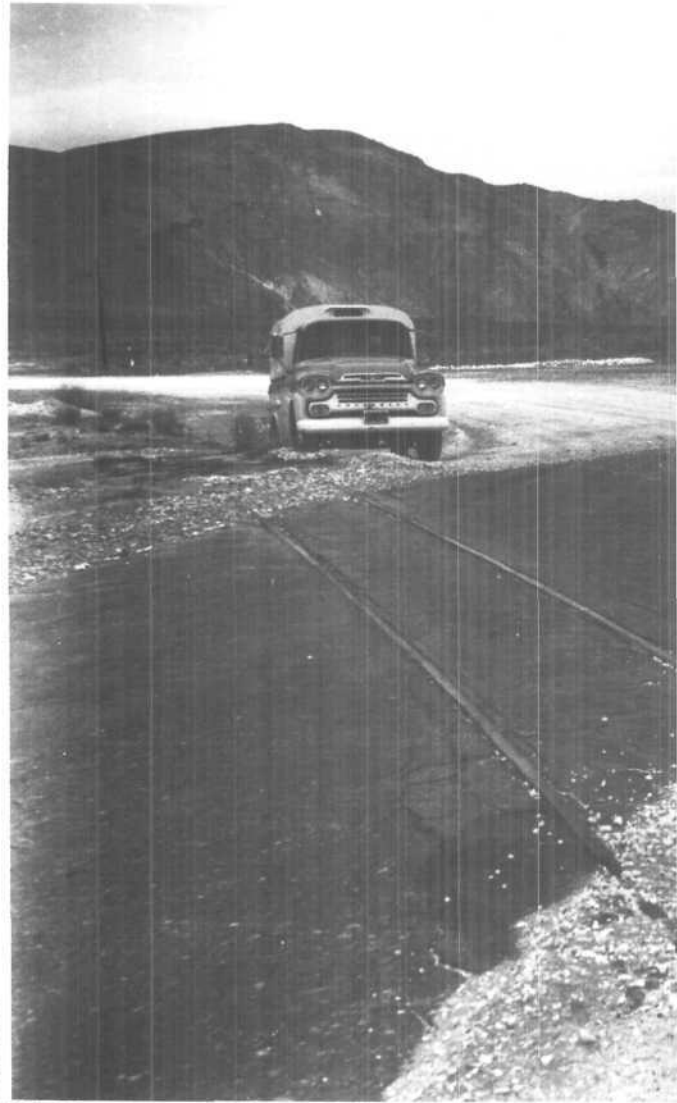
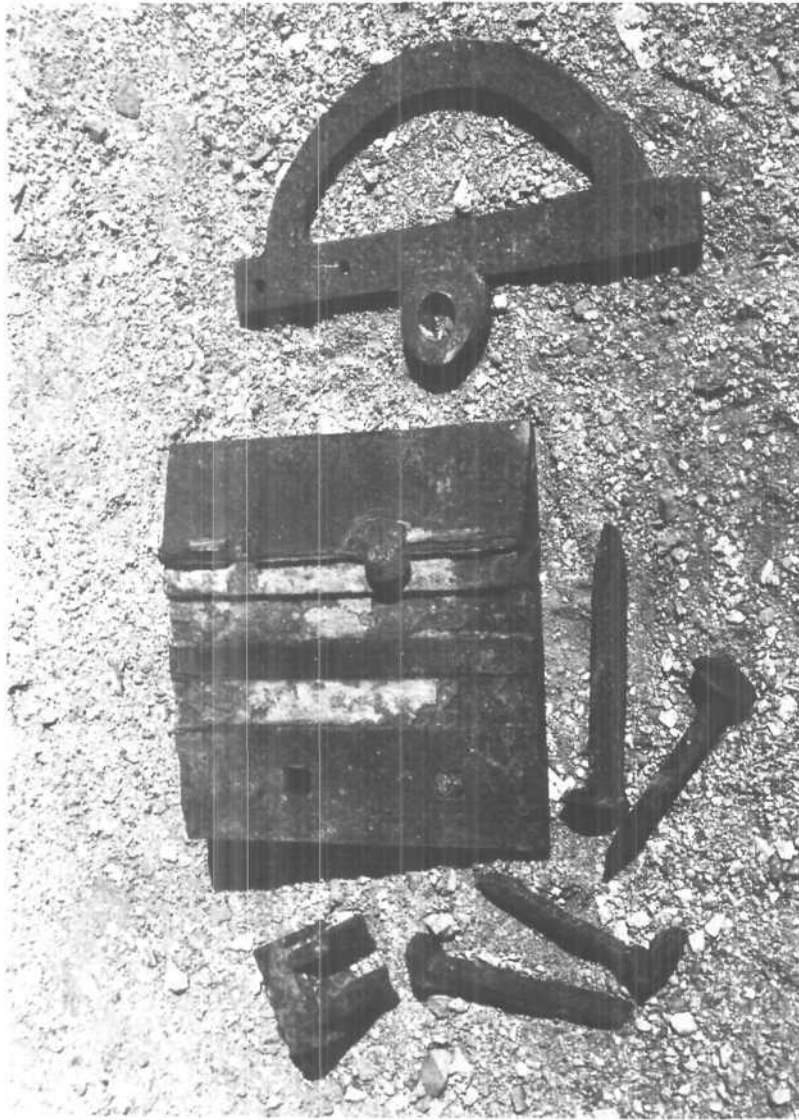
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OWENYO... where



Souvenirs of the "Slim Princess" (above, left) were picked up along the old railroad bed. Small grave discovered beneath the tamarisk was probably that of a small child.

the narrow gauge met the standard

by
Mary Frances Strong

Photos by author



Short section of the narrow-gauge track (above) near Dolomite is one of the few left of the Carson and Colorado Railroad which once ran through Owens Valley.

THE LITTLE, narrow-gauge train clattered down the tracks from Manzanar, smoke stack belching soot-filled air and steam clouds billowing from beneath the engine. It matched the Indian's description of "Fire Horse." To the residents of California's Owens Valley, the train was a lifeline to the outside world and they affectionately named her the "Slim Princess."

"Owenyo, next stop," called the conductor. The passengers traveling south for connections with Los Angeles or San Francisco, gathered their possessions and prepared to depart.

Owenyo was the point where the narrow-gauge rails met the standard gauge. This had not always been the case, since Owenyo came into existence some 30 years after the birth of the Carson & Colorado Railroad. The C & C planned to span a 600-mile distance from Mound House, Nevada to Mojave, California—providing a rail link between Reno and Los Angeles.

These ambitious plans, as is often the case, encountered many difficulties and in July, 1893, the "end-of-track" was Hawley (later known as Keeler) situated on the mid-eastern shore of Owens Lake.

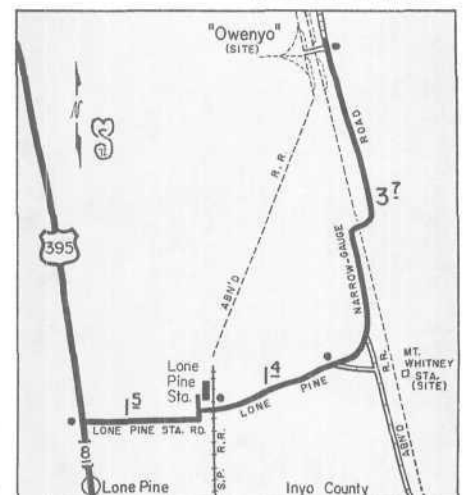
The Carson and Colorado was busy the next two decades delivering ores and hauling supplies to the many mines and communities along its route through Nevada and the Owens Valley of California. However, as the mining booms began to fade

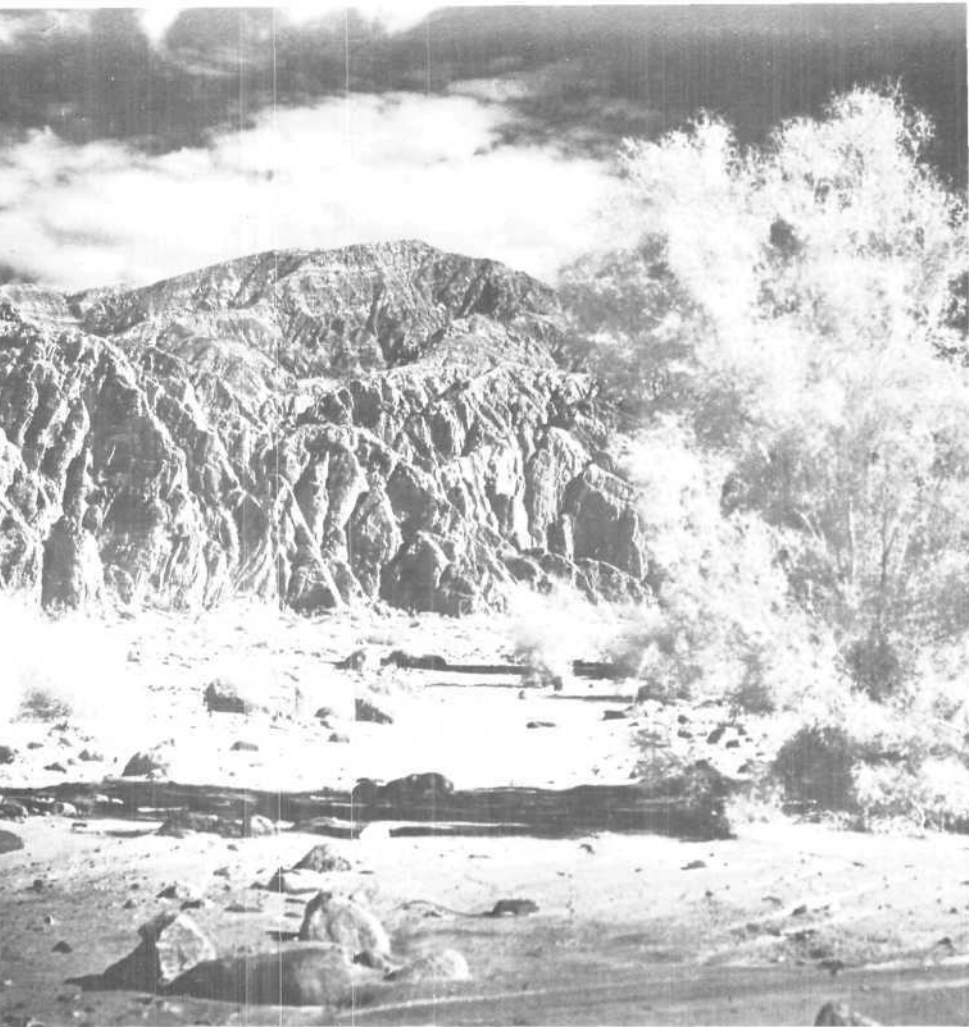
and commerce on the line declined, all plans for an extension to Mojave were cancelled.

In 1905, the Southern Pacific purchased the Carson & Colorado and three years later began construction of a standard gauge line from Mojave to the Owens Valley. Keeler, however, would not be the connecting link. Instead, the new line ran along the western shore of Owens Lake and joined the C & C four miles north of Mt. Whitney Station. The junction was named Owenyo. Dignitaries and residents held a joyous celebration on October 18, 1910, when a silver spike was driven to join the "Slim Princess" and "The Jawbone" lines.

But joined, they really were not. Two lines of rails—one narrow and one stan-

Continued on Page 36





by
Jack
Pepper

DESERT LANDS

NINETEEN SITES totaling 2.7 million acres of public lands within the Southern California deserts have been designated by the United States Department of the Interior as prime recreation areas "thus assuring their usage by the people for generations to come."

The sites were dedicated recently by Secretary of the Interior Rogers C. B. Morton during ceremonies held at the Imperial Sand Dunes in Imperial County. Morton said the dedication of the sites was part of a plan by the Bureau of Land Management (which is within the Department of the Interior) to institute a "long range multiple use program for the protection and preservation of the fragile desert areas under the public domain."

The recreation areas, most of which are located in Riverside, San Bernardino and Imperial Counties, have been camp-

ing and rockhounding lands for local residents and urban visitors for many years. They range from the Yuha Desert below sea level to the Mecca Hills a few hundred feet above sea level to the Santa Rosa Mountains which tower 5,000 feet over the Coachella Valley in Riverside County.

The 2.7 million acres which were "dedicated" are only a small part of the 12 million acres of California deserts under the administration of the United States Bureau of Land Management. However, they are sites which have a "heavy weekend use and were designated as Recreation Lands according to classifications established by the Bureau of Outdoor Recreation; i.e., for general outdoor recreation, natural environment areas, primitive areas and historic and cultural sites."

"These heavily used but fragile lands

must be managed more effectively if we are to live up to President Nixon's mandate for more and better recreational opportunities for Americans today and tomorrow," Morton said. "This designation is a start in that direction for the California Desert."

At a "Town Meeting" following the dedication ceremonies which was attended by the press, government officials and interested persons, both California and Federal B.L.M. officials told *Desert Magazine* the dedication of the sites would not change their status as far as explorers, rockhounds and campers are concerned . . . "at least not for the present."

B.L.M. officials also admitted the long range multiple use plan for the inventory and management of the public lands of the California deserts as explained in the November, 1971 issue of *Desert Magazine*



Secretary of the Interior Rogers C. B. Morton (above) dedicates the 19 sites which include the Mecca Hills (left) near Palm Desert and the Pinnacles area (right) near Trona, California.



FOR RECREATION

could not become a reality without additional funds which they do not have.

House Bill H.R. 9661, which was introduced by Congressman Bob Mathias last July, calls for the appropriation of \$28,600,000 to implement the B.L.M.'s California Desert Plan. It has more than 30 Congressional co-sponsors and the support of Secretary Morton.

J. R. "Russ" Penny, director of the California Office of the Bureau of Land Management, has released the following statistics to prove the need for the California Desert Plan:

There were 4.8 million recreation-use visitor days in the California deserts in 1968, 6.0 million in 1970, 7.6 million in 1971 an indications are that 1972 will exceed 9 million visitor days.

There are 1,650,000 motorcycles, 150,000 dune buggies and 180,000 four-wheel-

drive vehicles in California alone. Of this total of 1,980,000 off-road vehicles, B.L.M. estimates that 80 percent are used in the California deserts.

Penny also states that immediate "critical management needs" call for control of off-road vehicles, law enforcement to stop vandalism and destruction of artifacts, reduction of such hazards as mine shafts and capability for search and rescue, information and communication system to educate people for desert use. (An incomplete survey of accidents disclosed 125 deaths and 1,975 serious injuries on the deserts in 1971.)

The B.L.M. also estimates that there are 250,000 mining claims in the public lands of California deserts of which only 500 are believed to be valid! More than 50 minerals are found on the desert and these yield \$180 million a year for the

nation's economy.

Penny reiterated that as a result of the above statistics gathered during a two-year extensive survey the California Desert Plan is needed and that dedication of the 19 sites is one of the first steps in the long-range multiple use program. The sites include:

Trona Pinnacle Recreation Lands (19,600 acres): Impressive formations of Tufa castles of calcium carbonite. Used intensively by photographers, sightseers, picnickers, rockhounds and campers.

Old Woman Mountains Recreation Lands (93,740 acres): Archeological values; upland game bird hunting and camping.

Eastern Mojave Recreation Lands (713,456 acres): Outstanding archeological values including a cindercone, petroglyph site and many pictograph areas. Other features are the Kelso Sand Dunes, Cima



Recreation Lands of the CALIFORNIA DESERT

Dome Natural Area, a Joshua Tree forest and the Granite Pass Recreation Site.

Turtle Mountains Recreation Lands (91,520 acres): These scenic mountains include the twin Mopah Peaks, pinnacle formations, lava flows and canyons. The area also has archeological values, geological values, camping, hiking and picnicking.

Afton Canyon Recreation Lands (4,560 acres): Here the Mojave River flows through a scenic canyon. The area has archeological, geological and historic values and the old Mojave Indian Trail.

Fort Piute Recreation Lands (4,680 acres): Features include old Fort Piute, the Mojave Indian Trail, the old Government Road, outstanding petroglyphs and archeological values. It receives intensive use for camping and picnicking.

Kingston Peak Recreation Lands (37,265 acres): An important archeological area with rugged mountains that provide limited hiking and riding.

Chuckwalla Recreation Lands (395,980 acres): An outstanding natural area featuring undisturbed ecological geological, archeological and historic values. Camping, hunting, rockhounding and photography are among the activities suited to the area.

Chuckwalla Valley Recreation Lands (2,040 acres): A natural biological area featuring the rare Desert Lily.

Imperial Sand Hill Recreation Lands (252,169 acres): This area features sand dunes intensively used by drivers of off-road vehicles and a large potential natural area which is an example of dune ecology.

Picacho Recreation Lands (127,450 acres): A rugged area of broad washes dominated by Picacho Peak; above average scenic features, undisturbed ecological values and hunting of small game, deer and waterfowl.

Whipple Mountains Recreation Lands (86,845 acres): Rugged, picturesque mountains provide a backdrop for numerous recreation developments along the Colorado River and Lake Havasu. The area also has geological and ecological values.

Santa Rosa Mountains Recreation Lands (60,920 acres): Spectacular view of Coachella Valley, Indian ruins and native fan palm groves; hunting of upland game birds and deer; areas for riding and hiking.

Bighorn Mountains and Whitewater River Recreation Lands (145,700 acres): Biological and ecological values range from a high mountain desert environment to excellent Joshua tree—pinyon pine—juniper forests. Petroglyph Springs is an outstanding archeological site.

Upland game birds and deer provide hunting opportunities and there is potential for riding and hiking.

Rodman Mountains Recreation Lands (324,480 acres): This area is popular with motorcyclist and off-road vehicle drivers. It has archeological values and receives considerable use from campers, picnickers and hikers.

Calico Recreation Lands (136,810 acres): Includes Murphey Well Indian Petroglyph Site, Tin Can Alley Recreation Site and the Rainbow Basin Natural Area which has upper Miocene mammal fossils. The area also has historical values and Joshua View, a place to see large Joshua trees.

Yuba Desert Recreation Lands (147,710 acres): This area receives intensive use by campers, picnickers and hikers. It has important geological, archeological and historic values.

Mecca Hills Recreation Lands (20,480 acres): A natural environmental area featuring multi-colored canyons that receive intensive use from hikers and picnickers. Interpretive sites are proposed for Painted Canyon and Box Canyon.

Grapevine Canyon Recreation Lands (21,165 acres): A portion of the San Bernardino Mountains; used for picnicking and camping. □



DESERT MULE DEER

by K. L. Boynton

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POISED ON an eminence in the midst of the desert's desolation, the stately mule deer, antlered head held high, nostrils flaring, seems but a mirage to be glimpsed for one breathtaking instant before fading shimmering away. For how in reality could this great stag, standing so proudly there, find food and drink to sustain his big body in all this barren waterless wasteland? Yet the deer is truly there, and indeed quite at home in desert foothills where no open water is known to exist for long distances, where plant life is meager, and the heat in summer intense.

Long associated with the desert, the mule deer has come to look a part of it, dressing in paler tones than his cousin to the north. His greyish buffish raiment is a valuable protection for life in the sandy desert, making him hard to see; the brown patch at his forehead, the white touches at his ears and on his body, his black-tipped tail serving further to break up his outline. Pale tones are a further advantage for desert living, ab-

sorbing less of the sun's radiation, thus helping to keep him cooler. The deer is also well equipped with sweat glands for evaporative cooling and under stress, heat can also be unloaded through respiratory tissues by panting.

But such water loss is expensive and dangerous in the desert, and the mule deer conserves water and keeps his temperature within livable limits by inactivity during the heat of the day. Lying in the shade of mesquite or shrubs or even in the shadow of a big rock, he stays almost motionless. Only his big ears (from whence he gets his names of mule or burro deer) are on the job and moving. These big funnels made of tough cartilage, are operated by an intricate group of muscles that turn them this way and that, scooping up sound and pinpointing its direction. His moist black muzzle is working too, testing the air, for the deer depends on his exceptionally keen sense of smell for safety.

As the heat of the day wears off, the deer leaves his shelter and seeks water, traveling some distance if necessary.

Knowing his territory, he knows where to find natural reservoirs, smelling them out when apparently dry, pawing out holes maybe two feet deep to get water. Then, ears up and listening, eyes watchful, the deer is ready to forage for food.

Lightfooted for so large an animal, he places his hoofs daintily, moving quietly from shrub to shrub, bush to bush, from stunted tree to tree. He is a browser by trade, a nibbler of twigs and leaves, and so careful is he that he can even eat the fruit of cactus, holding his sensitive lips up and away from the spines. Much of the moisture he needs comes from such succulent food.

Odd as it seems, this graceful creature is as much a cud chewer as stolid old Mrs. Moo, and is equipped with much the same grocery processing machinery as hers. Like a cow, his front teeth are arranged to crop plants with the assistance of his mobile and protusible tongue, his lower teeth working against a horny pad in his upper jaw, for he has no front teeth upstairs.

He is also minus canine teeth, a wide

empty space showing where they ought to be. But next in line comes his array of specialized cheek teeth, the grinders near the hinge of his jaw being squared off and enlarged to crush herbage. Crescent shaped ridges of hard enamel on their surfaces alternate with softer dentine which wears away faster, keeping the cutting ridges sharp.

Jaw action increases the efficiency of these teeth, for the deer's jaw is hung on to his skull for good lateral motion—a swinging sidewise movement wherein the teeth on one side only come together at a time. Those on the opposite side are temporarily out of contact until the next chew swings the jaw sidewise to bring them together in turn. This side to side motion, plus some free front to back movement, makes a grinding battery out of these cheek teeth, smashing the twigs against the hard enamel ridges, breaking down the tough plant cellulose walls, squeez-

ing out the moisture. The mouthful is quickly ready to be swallowed.

Lie the cow, the mule deer has a multi-part stomach, the first two chambers of which act as temporary storage bins. Under potentially dangerous conditions, quantities of food can thus be taken aboard quickly to be worked over later and digested at leisure in safety and seclusion—a system, by the way, which proved exceedingly valuable to cud chewers as they evolved through the ages, and is a survival plus for the desert mule deer of today.

Calcium is particularly important to him in the growth of his antlers, for indeed this handsome headgear is composed entirely of bone. Like the leaves of a deciduous tree, it is shed and replaced each year.

The social calendar of a mule deer population is closely correlated with the presence or absence of antlers on the gentlemen, which in turn is keyed to the season of the year. During the winter, the males are antlerless, and both sexes mingle in a large group with their teenage fawns, sometimes traveling to ranges lower down in the hills or out onto the desert floors (even Death Valley) where the winters are warmer and food more plentiful.

On such journeys they are usually led by a wise old female, probably the grandmother of many of the band, although as one observer noted, the gentlemen deer, able to get over the ground faster, are

quite apt to be far in the lead when escape is in order.

Antlers start growing in the spring and the group breaks up. The females go off by themselves, the males form small bands or wander about in friendly twosomes while their antlers are growing—far, far away to be sure from such troublesome matters as the arrival of fawns and their subsequent care, duties now keeping the ladies busy. And so the summer passes with the spring fawns (usually two in number) following their respective mothers, quickly learning to add green stuff to their milk diet, and growing bigger all the time.

Come fall, the picture changes for the antlers of the males have completed their growth. The Season of the Mad Moon, as the Indians termed it, is on. Gone is the placid male of the winter-togetherness days. Gone is the timid fellow of summertime, so protective of his sensitive growing antlers. Gone are the pals of the lazy summer days, for each male now regards the other as a potential rival.

Haughty and arrogant, the antlered stags begin to round up the females, and fights for their possession are in order. Challenges are snorted, the stags rearing with sharp hoofs flailing, inflicting slashing and cutting blows. Mighty pushing matches may take place, antler to antler, ending too frequently in disaster if antlers slip and lock together, for then struggle as they may, neither contestant can free himself, and both are doomed to perish.

Such a result causes scientists to take a very dim view of antlers. What good are they? For examination shows that deer antlers, handsome as they are and battle-hard to be sure, are just not shaped right for highly efficient weapons. They cannot inflict the terrible damage the good old pointed horn of the cattle tribe can do.

Nor are the antlers on adult males any use for protection of fresh-out fawns, since papa's headgear is only growing and very tender when the youngsters arrive and need protection the most. The females, in fact, handle the defense problems very well, by determined attacks with their sharp slashing hoofs. By the time the stag's antlers are grown in the fall, the youngsters are fast footed and can take pretty good care of themselves.

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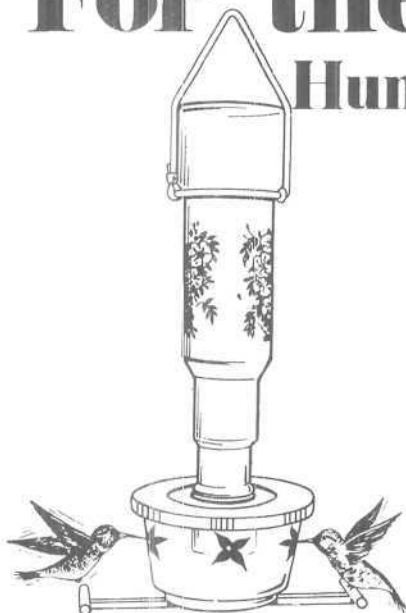
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Darwin said that antlers are a secondary sex characteristic that insure the breeding is done by the strongest and healthiest males, and hence insure the success of the species. But it frequently happens that a seedy looking male with inferior antler growth may be hanging about the periphery, and steal the female away while two mighty monarchs are quarreling over her.

Biologist Isard thinks that antlers may act as a kind of status symbol, useful only if the antagonist is impressed and bluffed out. He notes that while stags do a lot of posturing and pawing of the ground, they tend to avoid using their antlers when possible and that in fighting, damage, if any, is done with their hoofs. All this leads to the current interesting conjecture by biologist Modell that it may be that antlers are on their way out, evolutionally speaking.

A recent idea that the growing antlers may provide a means for temperature regulation during the hot summer has some reason in it. Antlers are outgrowths from the frontal bones of the skull. They form on permanent stumps located above the deer's eyes and grow upward and outward, consisting at this time of soft spongy bone covered with skin and hair "in velvet" as it is known.

Increasing in area as they grow, and richly supplied with blood vessels inside and on the surface, they do provide an ideal place from which excessive body heat could be unloaded, a very great advantage to the desert mule deer. Females do not grow antlers, but may avoid the danger of overheating as they tend to stay more in the shade in the discharge of their maternal duties and in keeping the youngsters hidden from predators.

Cougars are a real threat. Coyotes try for the fawns, fleeing in turn for their very own lives from irate deer mothers so handy with their sharp hoofs. A soaring eagle will swoop down on a fawn. Quick exit tactics exhibited by mule deer are a wonder to behold, for they do not run as white tailed deer do, but escape in prodigious bounds seeming to simply rise in the air and sail away in a series of broad jumps that may each cover 20 to 25 feet.

This peculiar bounding movement powered by leaps from all four feet and landing on all four involves little leg movement. Thirty-five miles an hour for a

short distance is par, with fawns clocking around 25. Born and bred in rough country, mule deer are so sure footed they can leave their pursuers far behind in a rugged terrain.

Communication between members of a deer population also helps insure their desert success—communication by sounds and by visual signals of patches of white hair erected on certain parts of their bodies. Most important is the silent communication of scent. Located on the mule deer's forehead, under his eyes, between his toes, on the inside of the upper part of his hind leg, on the outside of the lower part of his hind leg and at his tail are "gland" areas. Each has its own peculiarities. Physiologists Quay and Muller-Schwarze found that the deer marks the environment in his area with his forehead gland, rubbing it against twigs here and there.

News of his presence or passing is noted by other deer. The gland on his upper leg seems to have a prime role in mutual recognition, deer encountering each other sniffing this area. A deer, spotting danger, spreads the alarm quickly through the band by issuing scent from the gland on the outer part of his lower leg. The others, sensing it immediately, move swiftly and silently away—gone long before the approaching predator may even be aware that deer were once there. Or, if he be man, before he can be sure that the deer he thought he saw, was not just a mirage. □

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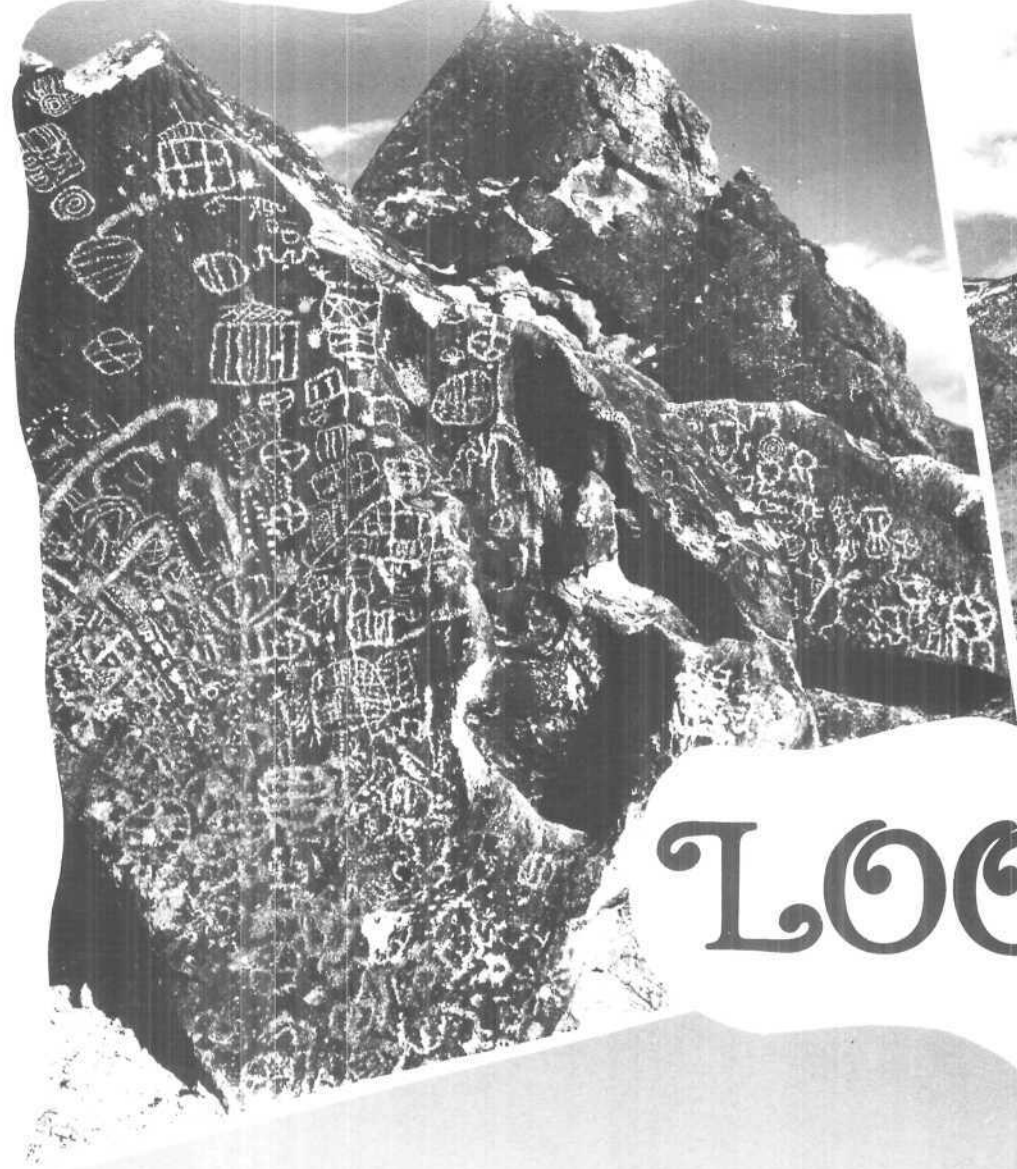
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LOOPING

by
Mary Frances
Strong


Photos by
Jerry Strong



Included in the many points of interest in the "Looping the Loops" trip are (clockwise) old ruins, Indian petroglyphs, magnificent views, old railroads and numerous fishing streams.



THE LOOPS AROUND BISHOP



CALIFORNIA'S OWENS Valley is a great fault trough between the formidable Sierra Nevada and the White and Inyo Mountains. These high and lofty mountain peaks—heavily covered with snow and often frosted well into summer—bring hundreds of skiers and snow enthusiasts to the Valley during winter months.

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Summer also finds families enjoying vacations in the numerous high and low campgrounds. Often these outdoor enthusiasts are unaware of the short side trips that may be taken around Bishop. Safaris will give visitors a glimpse into the area's historical past, recall the nostalgia of its early days and provide incomparable views of majestic scenery.

This year, when you travel U.S. 395 in the Owens Valley, plan to spend a few days in Bishop and "loop the loops." You will enjoy getting acquainted with the friendly little town and its fascinating heritage.

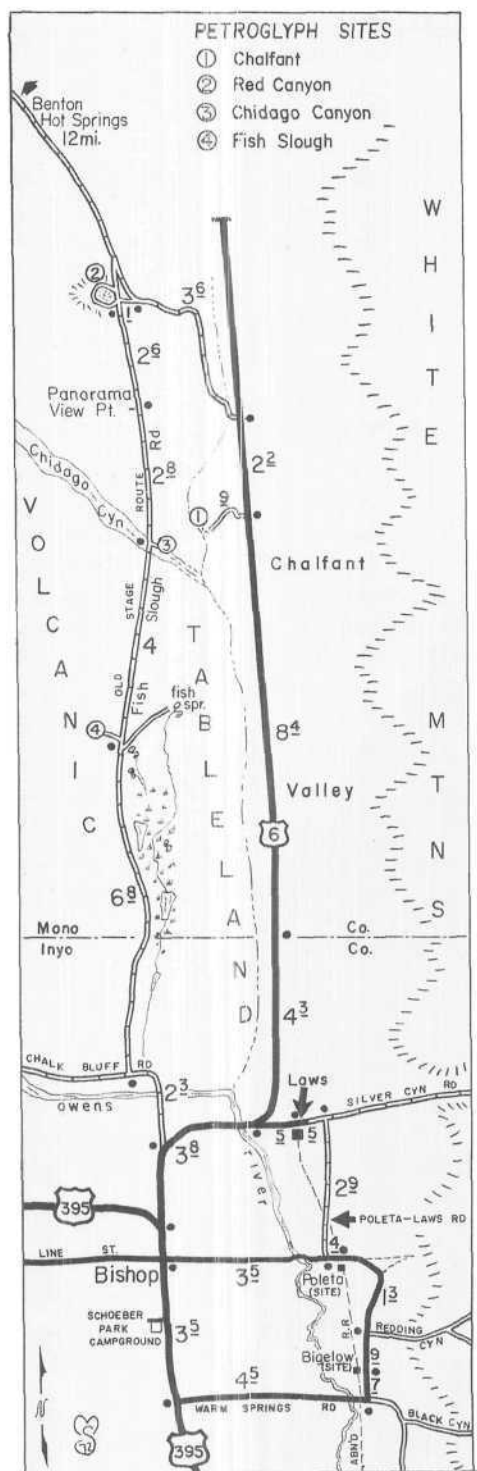
Let's begin our explorations by taking a mini-tour along the east side of the valley. Turn left from 395 onto Warm Springs Road, 2½ miles south of Line Street in Bishop. This narrow paved road crosses canals and skirts several ranches as it leads to the Owens River. The silver-grey foliage of waist-high rabbit brush dominates the fields along the way and, by September, cloaks them with golden-yellow blossoms.

The Owens River runs freely here and meanders north and south. You can enjoy good fishing unless the water is high. Huge trees outline the river's path and dirt trails lead to sand bars and pools. Camping is permitted and, though there are no facilities, you will find shady sites along the river's banks. Mosquitoes can be a problem in summer, so it is a good idea to have a repellent along.

Beyond the first bridge, the road climbs out of the old river channel and cuts through the bed of the former Carson and Colorado Narrow-gauge Railroad. Affectionately called "The Slim Princess," the little railroad was an integral part of the Valley's history. As you travel the trail you will see its ghostly remains.

Ahead, the naked, brown shoulders of the White Mountains stand out in stark relief—their color broken only by a patch of green from an occasional spring. The paving turns north while a dirt road continues east and gives access to Black Canyon. This is excellent country for trail bike riding and exploring. Remember—ride only on roads and trails.

Less than a mile north are the remains of Bigelow Siding. A few scraps of purple, green and brown glass, plus a shallow hole or two left by bottle collectors, help to identify the site. The crumbling walls



A mile beyond, the road climbs up an alluvial fan. Park here and take in the view to the west. The tree-lined course of the river will be seen in the foreground. Dwarfed by the bulwark of 13,000-foot Sierra peaks, the Coyote and Tungsten Hills appear to be snuggling at their base. The town of Bishop is hidden in a canopy of green trees.

Look carefully and you will see a natural gateway between the foothills and the Sierra. Beautiful Lake Sabrina and South Lake lie above in glacial cirques at elevations of nearly 10,000 feet. This is summer country where fine campgrounds are found along aspen-lined trout streams. Good fishing may also be enjoyed at the lakes in an alpine setting less than 25 miles from Bishop.

Let your eyes wander a bit south, about 15 degrees, and you will see Palisade Glacier, the southernmost glacier in the United States. Camera buffs—take out your equipment. From this point, we captured a good telephoto shot of the glacier.

Rambling on north—well-marked Redding Canyon Road appears on the right. Here too, is an interesting area for trail bike riding. The dirt road climbs the alluvial fan and Ys in about a mile and a half. The right branch leads into Redding Canyon while the left one heads up Poleta Canyon to the old mine of the same name.

This area was part of the Keyes Mining District in the 1860s and was heavily prospected. The Poleta Mine caused quite a stir in 1881 with the discovery of an 8-inch quartz vein which carried \$35 per ton in gold. Located on the side of the ridge at 5,700 feet elevation, its mill was a mile south and a thousand feet below.

The Eastside Road continues north then curves west to temporarily become Poleta Road and finally Line Street.

A little over a mile from Redding Canyon, our route once again crosses the Slim Princess railbed. My 1905 topographical map indicates this to be the location of Poleta—a small depot and siding south of the road. The site is so overgrown with brush it is difficult to see. A stroll along the railbed disclosed a few ties, rusting pieces of metal, spikes and chips of old glass. I would guess the members of the Bishop bottle club long ago dug the area.

We found Leonard Lance of Bishop going over the site with a metal detector. We chatted awhile and he pointed out the for-

mer locations of well-known ranches.

Beyond Poleta, our route continues west, passes the White Mountain Research Center and a junction with the Poleta-Laws Road, then crosses the Owens River. The many sand bars and pools in this stretch of the river provide good fishing, both up and down stream.

From this point, we can continue two miles west to U.S. Highway 395 or return

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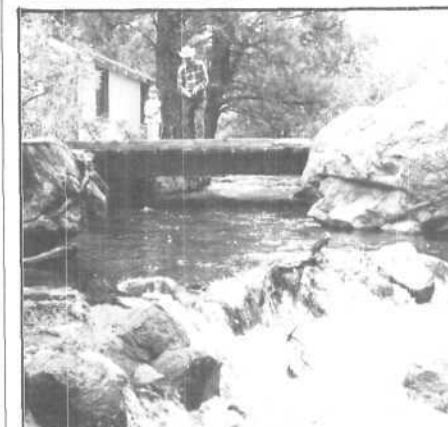
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of a concrete building will be seen on the east side of the road. It might be worthwhile to take a metal detector over this area.

Aging elm and cottonwood trees dot the land where farm houses formerly stood. They are sad reminders of the Valley's golden days of verdant meadows, truck gardens and orchards. Farm buildings are gone but the trees have lived on for over a half-century. The story of the bitter battle for Owens Valley water is ably told in W. A. Chalfant's book, *The Story of Inyo*.



to the Poleta-Laws Road and resume our drive along the Eastside. Let's do the latter and conclude our mini-tour with a visit to the Laws Railroad Museum.

Three miles north, turn left at Silver Canyon Road and travel west. The old-time railroad station and several buildings from a former movie set give a picturesque, western atmosphere to Laws. Though dedicated to railroading, the museum houses many fine exhibits pertaining to the valley's pioneers. The Agent's home has been refurbished and gives visitors a chance to peek into an early day dwelling. You will enjoy touring the old station and climbing aboard one of the engines of the Slim Princess. Even the older folks get a kick out of ringing the engine's bell.

The Paiute Indians played an important part in Owens Valley history, and you will see an excellent exhibit of their life-style before the coming of the White Man. The exhibit is provided by the descendants of the Valley's original residents, now living on the Paiute-Shoshone Reservation at Bishop.

The mini-tour ends at Laws and you will find it has provided a full day of sight-seeing. Schober Lane Campground, on 395 a mile south of Bishop, is a good overnight camping stop. There are restrooms, water and tables. The fee is \$1.00 per night. Modern motel accommodations are available in town.

THE PETROGLYPH LOOP

There are several locations north of Bishop containing some of the most varied and unusual Indian petroglyphs in California. They are well worth seeing and a loop trip can be made in one day. However, it will be best enjoyed if ample time is allowed for poking along and making stops at the various points of interest to take pictures. You might plan to stay overnight along the way with the added bonus of camping far from the crowds.

Today, too many people are prone to rush when visiting areas such as petroglyph sites. They jump out of their car, quickly snap a photo, then hasten away to the next stop. They may have been there but they will have seen little.

There are hundreds of excellent fishing streams in the Sierra Nevada such as Rock Creek. Color photo by David Muench, Santa Barbara, California.

Half of the road is paved — the rest good, graded dirt road. Trailers can easily be taken over the entire route. There are no improved campgrounds but each petroglyph area has ample room for overnight camping.

The trip begins by heading north on U.S. Highway 6 from Bishop and following the ribbon of asphalt up Chalfant Valley. A smaller and higher valley than the Owens, it is confined between the White Mountains and a great volcanic tableland.

The Whites rise sharply from the valley floor and tremendous alluvial fans sprawl from the entrances to narrow canyons. Each one is cut by an intermittent stream bed and, generally, has a two-track road to lure back-country explorers.

On the west, the volcanic tableland resembles a giant, wedge-shaped mesa. It stretches north nearly 30 miles before blending into the vast pumice beds south of Mono Lake.

From Bishop, U.S. 6 gradually climbs toward Montgomery Pass and Mono County line is crossed and the little settlement of Chalfant skirted. You will see some very photogenic old ruins in this area which should be of interest to camera buffs.

Nearly 17½ miles from Bishop (see map for detailed mileages), turn left onto a dirt road. Follow it to a parking area at the edge of the tableland. This is the Chalfant Petroglyph site where unusually large Indian writings (up to 4 feet) are to be seen along the bluff. To reach the best exposures, walk about 100 feet north along the wash. The large figures occur in the light-colored tufa. Excellent photos can be taken during the morning hours. *Do not mark or deface as it is a federal offense.*

Returning to the highway, continue north two miles and turn left. A small wooden sign "Petroglyph Loop Trip" marks the graded dirt road. The establishment of the loop trip and the marking of the petroglyph sites was accomplished through the efforts of the Bishop Boosters, Eastern Sierra Gem & Mineral Club and the Eastern California Museum Association.

The road now rapidly climbs to the top of the tableland and travels northwesterly to a junction with Fish Slough Road. A small hill is dead ahead. Take the dirt road encircling it to observe the Red Canyon petroglyphs on the outcropping rocks. There are several of sheep, many hand and

foot prints, plus what appears to be a large animal track.

We now head south on Fish Slough Road and travel along a section of the old stage route between Bishop Creek (Bishop's earlier name) and the famous gold camps of Bodie and Aurora. The road begins a gradual descent and drops into Chidago (shi-day-go) Canyon petroglyph area.

The Chidago "glyphs" are located on the rocky slope on and above the parking area. There are hundreds of them. So many have been crowded onto one boulder it is called "newspaper rock." In the center of the outcrop is found the "Chidago deer." Jerry also located an excellent "turtle" glyph. The afternoon sun will give the best photographs at this location. This area is a good overnight camping spot.

The last location on the petroglyph loop trip is the Fish Slough site. There aren't too many here but on the low mesa above the parking area, you will find deep-hole mortars (petates) and slightly concave grinding surfaces (metates) used by the early Indians. Chips of obsidian and groups of circled rocks indicate the Indians used this area regularly. Water from the springs is warm and game must have been plentiful, making it an ideal camp site.

Fish Slough Springs has become a sanctuary to help save the rare and endangered pup fish. The spring is posted.

The last few miles of our trip follows Fish Slough down the corridor it has cut through the barren tableland to its junction with the Owens River, and our return to U.S. 6. The slough is a green ribbon of willows; shallow, marshy areas lined with cattails, and mini-lakes providing water for the many animals and birds of the region. It has been, and still is, a quiet refuge for both man and animal.

"Looping the loops around Bishop" has taken us back in time to when miners struggled to wrest precious metal from the earth and when brave men and their courageous women came to settle in an unknown land. We have shared the campsites of the Indians and pondered over the meaning of their petroglyphs. Our eyes have encompassed the beauty of the land and its magnificent mountains. We have enjoyed our trip into the great outdoors and, once again, feel at peace with the world. □



The building that once housed a general store and Wells, Fargo & Co. offices at Benton Hot Springs has been in continuous use since its erection in 1868. Today it is still a general store.

by
Mary Frances
Strong

HIGH, WHIDIE



Once a bustling supply center prior to 1900, Benton Hot Springs is often overlooked by today's travelers. Desert's Field Trip Editor explores this California country of many contrasts.



Pass in the Benton Range (right) en route to Adobe Valley goes through granite pinnacles. One of the original native stone cabins (below) at Benton Hot Springs still serves as a residence.

Photos by
Jerry Strong



& HANDSOMIE



HIGH, WIDE and handsome. High — with elevations of over 8,000 feet, wide — with long meadows and lakes sprawled between the passes, and handsome—with picturesque rock formations, forests of towering pines and carpets of sagebrush. This describes the country through which California State 120 passes from Benton Station to Mono Lake.

In this region formed by intense volcanism there are striking contrasts to be found along the 50-mile segment of road leading from high desert to alpine landscapes. It is a country as rich in history as it is "high, wide and handsome."

State 120 begins at Benton Station, a "Johnny come lately" in the historical chain of the region. It sprang into existence in 1883 as an important shipping center on the newly constructed Carson & Colorado Railroad. A good means of transportation and a supply point had

been sorely needed by the many mines in the surrounding districts. In this way, Benton Station was largely responsible for the eventual demise of Benton Hot Springs—a busy way station four miles west.

The years have not been kind to Benton Station. The mines are closed and the railroad is gone. Though it lies along a major highway to Nevada, few travelers have reason to stop. It has the look of an old and forgotten community.

You will find pleasant driving along this back-country highway. It is paved but, even more important, it utilizes natural gateways, eliminating the sheer drop-offs generally found in mountainous terrain. There is also an absence of people and facilities. This lends to the feeling of country still in its pristine state.

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Heading west, State 120 quickly climbs a low summit in the mountains to give a fine panoramic view of Blind Spring Valley. Ahead, Benton Hot Springs lies hidden among a grove of old cottonwood trees. Look south across the valley and you will see the former stage road heading towards Bishop. Before the railroad came, it was the major supply route to the famed camps of Bodie and Aurora. It is still maintained and used by local ranchers, miners and back-country travelers.

Rockhounds should find the summit area of interest. Obsidianites, small rounded "drops" of volcanic glass, will be found along both sides of the highway.

Many of the original buildings still stand at Benton Hot Springs, including the general store. Though the latter is open for business, the proprietors evidently do not welcome "browsers." A sign is explanatory.

The houses in the vicinity of the store represent several eras in the community's history and are quite photogenic. They all appeared to be occupied and several are being repaired. A quick count disclosed about a dozen old cabins in the hills.

Residency at Hot Springs, as the area was first called, dates back beyond recorded history. Located in a sheltered valley with a comparatively mild climate and large hot springs, the early Indians were quick to make it one of their important gathering places.

Prospectors found the springs an enjoyable stopping place, as did the pioneers who decided to settle in the valley. This didn't meet with the Indians' approval and hostilities developed. One notable incident involved E. S. Taylor, the partner of Waterman "Bill" Body who first discovered gold at the site of the great camp (Bodie).

It seemed as if the partners were destined for disaster. After Body's discovery of the placer gold in 1859, the men elected to spend the winter at the diggings. Body froze to death when he became lost in a blizzard. Taylor drifted to other camps, eventually coming to Hot Springs. Prospecting was good and he elected to settle in the area. He chose a site near a spring to build a stone cabin with thatched roof. The latter was a mistake.

Indian hostilities had increased and bands were roaming the region looking for trouble. A group besieged Taylor's cabin, then set fire to the roof to drive him

out. He is reported to have killed 10 Indians before meeting death at their hands.

The discovery of silver on Blind Spring Hill, in 1862, quickly changed Hot Springs. Hundreds of prospectors arrived and nearly every foot of the 8-mile-long, 1-mile-wide hill was soon under claim. A settlement sprang up and Hot Springs became Benton.

It was a lively place. Mining production soared and several hundred Orientals were brought in to do the hard labor. A post office was established and a Wells, Fargo Agency and general store were opened. Stages arrived regularly from the south with supplies and passengers. The Pony Express made twice-weekly runs from Benton with mail for Bodie and Aurora.

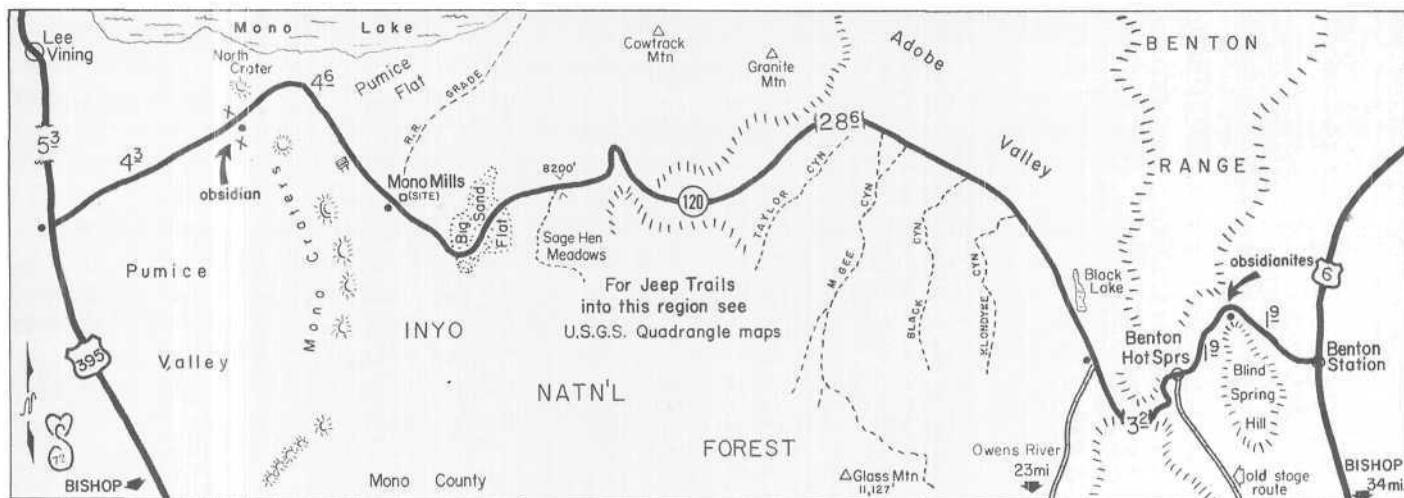
Ore had to be shipped to San Francisco for processing and this was costly. Eventually, several small mills were erected to handle the ore locally. Mining activity in the Blind Spring District reached its zenith during the years 1862 to 1885 and had a recorded production of six million dollars in silver.

The deposits were unusual in that uncommon stromeyerite—silver-copper sulphide—was the principle silver mineral. Deposition was richest in the oxidation and enrichment zones near the surface. None of the original mines was worked to depths below 1,100 feet. The "silver hill" lies east of Benton and forms the eastern border of the valley. Many scars from the mining activity are readily discernable.

Benton never became a ghost town and has long outlived the great gold and silver camps it served. There have been several periods of mining and in 1940 tailings were reworked. The locale enjoyed a period of popularity as a spa and the general store has continually been under lease.

Leaving Benton Hot Springs, the highway climbs a 6,500-foot pass through eroding granite pinnacles and enters Adobe Valley—a wire, 17-mile basin between the Benton Range and Glass Mountain. At its southern end is Black Lake, a slim sliver of water which appears to have a white frosting and deep red color in the late afternoon sun. This is pumice country and signs warn "Soft Pumice. Stock cars stay on pavement."

Clearly marked on the left is a back road to Owens River. Jeep trails lead south



into Black, McGee, Taylor and Wet Canyons. It is good country for experienced drivers to explore in four-wheel-drive vehicles. It is also cattle country with many fences.

The highway skirts the westerly edge of Adobe Valley, curves through North Canyon and enters the Inyo National Forest as it tops the 8,200-foot summit at Sage Hen Meadows. Pershia, Great Basin Sage and Rabbit Brush cover the land along the route. The latter is often called the "yellow top" and brings a golden glow to the countryside when it blooms in the fall.

Tall pines now make their appearances as the highway crosses Big Sand Flat. A forest of Jeffrey and Lodgepole pines provides a beautiful setting for Mono Hills Historical Site.

There is not much left of the once busy mill which supplied lumber for Bodie (1878 to 1916). Old timbers and a couple of large wooden wheels mark the mill site. The first view of Mono Lake can be seen from the historical marker. The bed of the Bodie-Benton Railroad is still definable.

Although it originally was to have served Benton, it never did. Grading had reached Adobe Valley when all work was abruptly cancelled in 1882. A fine article on the mill and Railroad appeared in the December, 1971 issue of *Desert*. This area would be a good stop for an overnight camp among the pines.

A mile west, the trees yield to great beds of white pumice. The dark cones of several craters (known collectively as Mono Craters) appear. A historical marker explains the volcanic activity that occurred in this region. Of particular interest are pine trees standing alone in the beds of pumice. Sky-blue Mono Lake and its vol-

canic islands help make the scene a photographer's paradise.

Three miles farther on, rockhounds will find chunks of obsidian scattered over the ground. The highway is now in the shadow of the Sierra Nevada and joins U.S. Highway 395 in just four miles.

The route south to Bishop leads through impressive mountain country and spectacular passes. Side trips could include June Lake Loop, Mammoth Lakes and the Devil's Postpile National Monument. There is good fishing in the swift streams com-

ing out of the Sierra and many fine campgrounds for overnight stops.

The drive from Benton Station to U.S. 395 might be called the "lonely road." Few cars will be seen. There are no towns and very little signs of human habitation. Though a paved road passes through it, the great expanses of land remain seemingly undisturbed. There is a quality of spaciousness and an exhilarating feeling of freedom. There is adventure waiting along the trails in this high, wide and handsome land. □

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OWENYO

Continued from Page 19

lard—lay side by side in the Owenyo yards—each with an adjoining loading platform. The new station had a gallow-type turntable to rotate the engines for their return trips. Owenyo was also the main communications center.

The procedure for handling through passengers was simple and reportedly unpopular. This was especially true with passengers from the south. They were required to dine and spend the night at the Owenyo Restaurant-Hotel, boarding the Slim Princess the next morning. Eventu-

A good campsite (right) is found at the old Owenyo Station. The 79-year-old railroad (below) is gradually disappearing.

ally, night runs were added which omitted layovers and improved the service.

While not a town, Owenyo developed into a sizeable station with a considerable population. A number of workers were required to operate the yards, station, hotel and restaurant, and consequently many brought their families to Owenyo.

The golden years of the Slim Princess were from 1923 to 1929. Nearly 2,000 carloads of sheep, several hundred of cattle, many carloads of hay and fruit plus an assortment of mineral commodities were shipped annually.

The decline of mining in Nevada, the acquisition of the Valley's water by Los Angeles, and the depression caused abandonment of many sections of the narrow-gauge line in Nevada.

The year 1938 saw the section from Tonopah Junction to Benton abandoned, followed by the Benton to Laws section in 1943. The route of the Slim Princess was now confined to a 70-mile stretch through Owens Valley with stations only at each end-of-track and Owenyo. Few passengers were carried and Owenyo's days as a main terminus were over.

Improvement of the highway through Owens Valley and the subsequent loss of



shipping to trucks, sealed the fate of the Slim Princess. Keeler Station was closed in August 1957 followed by Laws in February 1959.

Owenyo remained as the only station on the narrow-gauge line. Finally, on April 30, 1960, the Slim Princess made her last run. Owenyo was abandoned and the terminus of the standard gauge from the south, (Southern Pacific) was chang-



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ed to Lone Pine Station. Thus, an era ended.

Owenyo was unique in having had the only semaphore on the entire Owens Valley section of the narrow-gauge railroad. Crews communicated via pole boxes located at intervals along the route. Unusual too, is that the little railroad, though part of the Southern Pacific, was operated by one man—W. F. Tomer, from 1924 to

1954. He was the "King" of the Slim Princess line with complete authority in the handling of his empire. This he did with utmost efficiency for three decades.

Though the rails are gone, except for one short section at Laws, and in the pavement at the crossing of the old highway near Dolomite, the old railbed of the Slim Princess remains. Trail bike enthusiasts should enjoy riding along the old bed which is readily discernable. It is strewn with spikes and rotting ties.

Owenyo, too, has faded from the scene but there are many reminders of her glory days. Cement foundations, piers, spikes and the decomposing parts of railroad paraphernalia mark the site. Bottles must have played an important part in the life of visitors and workers, as hundreds of broken ones lie about.

Diggers find a whole one now and then though, they are circa 1910 to the present. Interesting items, now called memorabilia by hobbyists—dishes, pots and pans and other household items—have been found in recent years.

The tamarisk trees, which once provided shade, still flourish and, on one of my visits, I found three great-horned owls sleeping in each tree.

A very interesting underground tank is still intact. It has a dome-shaped roof with a protruding pipe. I have long speculated as to its use without coming to any conclusion.

Near the main road, hidden under the

dense foliage of tamarisk, I found a small grave. It must have been that of a child. The coffin has been removed but the decorative wooden fencing remains.

I have a special feeling for the little train that was held in such affection by the people of Owens Valley. Though not a valley resident, I had the pleasure of seeing the Slim Princess on one of her runs near Owenyo in 1956. Diminished to almost toy size by the grandeur of the Inyo Mountains, the little train seemed to have a definite personality as she proudly chugged along.

Camped at Owenyo, one is far removed from the sights and sounds of civilization. It takes awhile for the evening moon to come over the Inyos and light the Valley. Shadows are emphasized and the old railbed stands out like a shimmering white ribbon. Listen awhile to the sounds of the night. Isn't that the faint whistle of the Slim Princess? Sure it is, for her spirit will never die!

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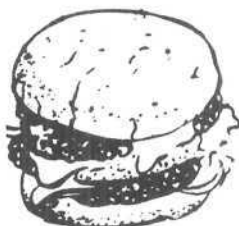


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Rambling on Rocks

by
**Glenn
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CALIFORNIA Land of Minerals

AN OLD proverb among miners states, "Gold is where you find it." A moment's reflection on this bit of sarcastic wisdom should force us to agree. If we can carry this a bit further, we can say that all minerals are where you find them. More different mineral species have been found in California than any other state, so California seems to be the place to find them!

This may be considered as typical "chamber of commerce talk" by California residents. To make matters worse, however, California also has the one area that has produced the most minerals, so it is tops on two points. We hope the other states will forgive us.

The area of most minerals is a complex

of limestone quarries, used to manufacture cement, near the city of Riverside. These quarries, known as Crestmore, are unique in themselves. At one time, in an ancient sea, large beds of limestone were laid down. After the sea retreated, and the land rose, the area was subjected to much earth movement, resulting in the limestone being shifted, broken, compressed, heated and injected with hot waters.

The first, and perhaps most important result, was the limestone was changed into a crystalline structure, and some of the impurities driven off or moved to nearby locations, leaving a very pure calcite, ideal for the manufacture of cement. Secondly, the injection with hot water contained many types of minerals which were deposited in cracks in and surrounding the calcite.

The purity of the calcite was noted about the beginning of this century, and a cement plant was started in 1908. At the same time, the many minerals quickly attracted scientists and collectors. As of 1968 the number of minerals found here stood at 137, but the total today is even higher. Many well known minerals are to be found here. Of real interest to mineralogists, but not necessarily the collector, is the many calcium and calcium related minerals. Many of these are very rare, and known by only a few specks in the calcite mass. At last report, a number of these were on hand, and not included in the total because they had not been correctly described. Part of this lack is that some of them were on hand in insufficient quantity to completely study them.

California lays claim to some very interesting and valuable mineral species. Most of these are found in other areas, however. To go back to our opening statement, gold is one of these. The Mother Lode district has long been considered worked down to a marginal situation, but

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there are still a few areas that get periodic attention. During the famous gold rush of the 1850s, much gold was extracted from mines in many parts of the state.

California's most unique mineral is benitoite, named for San Benito County where it is found. For many years it was found in only one very small mine, but two fairly recent finds nearby (of no real consequence, however), still keeps it as the state's own mineral. Benitoite is a very fine mineral of a medium to deep blue color, which will cut into a gem with brilliance that surpasses the sapphire.

When it was first found, it was thought to be sapphire. The mine, known as the Dallas Gem Mine, produced much fine material for a few years, then lay dormant. It was reopened for a few years, and again lay dormant. It has been reopened recently, but the production has been less than excellent.

As well as being a fine rare gem, benitoite has another claim to fame. It forms crystals in a special shape that was predicted by mineralogists long before it was found. Today it is the only one known to form in that special shape. The crystals are triangular, with the corners truncated slightly, and the upper and the lower portions coming to flat point. They are very striking crystals.

The mineral is found in a unique association in a large deposit of serpentine. Serpentine is California's gem stone. The Dallas Gem Mine vein is largely a snow-white, fine grained natrolite which encloses the benitoite and other minerals. Some of these are long slender jet-black crystals of neptunite, and smaller amounts of chalcocite, an unusual copper mineral. Another of interest is very small crystals of a brown mineral, Joaquinite (named for neighboring San Joaquin County).

When this was first discovered, a number of months elapsed before enough ma-

terial was collected to be able to correctly identify it.

There are many fine mineralized areas in the state where excellent minerals can be found, or have been found, but probably the most prolific from the standpoint of gems is the pegmatite dike region of San Diego and Riverside Counties. This band actually begins at Crestmore in Riverside County and moves south through San Diego County, and crosses the border in northern Baja California.

The first southerly deposits of gems in these dikes occur near the city of Hemet, with some very fine specimens having been found. The dikes reappear at the town of Pala, then near Mesa Grande, Ramona and finally at Jacumba before crossing into Mexico.

The mines at Pala and Mesa Grande have produced some of the finest tourmalines to be found anywhere. Various types of beryl, topaz, and garnet are also found in various mines in the district. These mines were first worked in the early part of this century for the fine pink tourmaline that was a favorite carving medium in Imperial China. With the fall of the last dynasty, and the formation of the Republic, the demand ceased, the mines closed and lay dormant for many years.

With the advent of amateur collecting and gem cutting, some of the mines have reopened and have produced excellent materials. The most recent of these reopenings was the Stewart Lithia Mine at Pala. When this mine was first worked little attention was paid to gem materials, the ore being a type of mica containing the light metal lithium. When better sources of lithium appeared, the mine closed. About two years ago, gem miners reopened the mine, with sensational results.

This leads us back full circle to our opening statement—gems are where you find them. □

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EDITORIAL

TIME IS RUNNING OUT!

"IN MY time, if we err, I want to err on the side of conservation."

Secretary of the Interior Rogers C. B. Morton made this statement at a "Town Meeting" following the recent dedication of 19 sites in the Southern California deserts as recreation, historic and cultural areas.

As a result newspapers throughout California stated that "conservationists had their moment of glory" and that "desert conservationists learned they had a powerful ally in Secretary Morton."

Secretary Morton's impromptu statement was a result of questions and views he heard during the "Town Meeting." He also stated that "if we fail in our generation to inaugurate a land use planning system for the next generation, the next generation will live in a system that is next to unmanageable."

We are in complete agreement with his latter statement. But we feel his remarks about erring on the side of conservation were ill advised and were a result of his reacting to an audience he evidently thought represented all organizations interested in the future of the California deserts.

Desert Magazine was present during the three-hour long discussions. Whether spokesmen for other groups such as rockhound clubs, four-wheel-drive associations, etc., were not present or did not have a chance to air their views, the fact remains Secretary Morton did not get an overall picture of the problems facing the Bureau of Land Management — at least not at the "Town Meeting."

We also think Secretary Morton should have elaborated on what he meant by "conservation." If he meant, as defined in the dictionary, conservation is a "protecting from harm, loss or being used up," then all desert-oriented groups, including members of the Sierra Club, rockhounds, back country explorers, four-wheel-drive organizations—are in accord.

Unfortunately, however, the word "conservationists" has come to mean to most rockhounds, back country explorers and four-wheel-drive families those individuals and organizations who would prohibit all vehicles (and in some cases, horses) from entering any areas of the public lands of the California deserts.

And, also unfortunately, of the dozens of views expressed during the "Town Hall" meeting 99 percent were those of county officials asking for aid in "enforcing the laws" (none of which were defined) and ultra-conservationists who want to make practically all public lands "wilderness areas."

Of all the views expressed only one was on the side of families who want to get away from urban areas and enjoy a weekend in the desert. Marjory Johnson, speaking for the Western Rockhound Association, asked the county officials if they were not aware of the economic

benefits to their communities from visiting urban outdoor enthusiasts and what will happen to outdoor families if all public lands are put in the "wilderness area" category.

Her questions remained unanswered.

The Bureau of Land Management has inaugurated a long-range multiple use plan for the 12 million acres of public lands in the California deserts. Since nearly all counties have enacted laws making it illegal to drive over private property without the written consent of the owner, these public lands are all of the back country remaining for rockhounding, exploring and jeeping.

And unless four-wheel-drive clubs, rockhound associations and other interested organizations immediately start cooperating and speaking out—and speaking loudly — WE WILL LOSE EVEN THESE PUBLIC LANDS.

In the November 1971 issue of **Desert Magazine**, we endorsed the Bureau of Land Management's California Desert Plan and urged the passage of Congressman Bob Mathias' bill which would appropriate \$28,600,000 to implement the B.L.M. Desert Plan.

Like any American, we are against regulations just for the sake of regulations. But we are convinced that due to the increased use of our California deserts that some type management program must be instituted. If such a program is not supported and the deserts are destroyed then what land is left for our enjoyment will be closed and lost forever.

Organized rockhound associations, four-wheel-drive clubs, the California Association of Four Wheel Drive Clubs, the California Outdoor Recreation League and many others recognize this fact and are actively working to protect your interests.

We also urge recreation vehicle manufacturers to participate in this long range and badly needed public relations campaign. If we have nowhere to go, we will not want to purchase their equipment.

We believe the California Bureau of Land Management officials are sincere in trying to work out a program that will be fair to all concerned. But they cannot get the overall picture unless they hear from us. They **ARE** hearing from those who want to close all public lands.

It is essential that all of us—individuals and organizations—interested in keeping the back-country public lands open to recreation and exploration band together TODAY in a united campaign to inform the Bureau of Land Management of our needs. We can no longer afford to be silent and not be counted.

Bureau of Land Management officials have told us they welcome the views of our readers. So send your constructive opinions, views and suggestions to Desert Magazine, B.L.M. Department, Box 1318, Palm Desert, California 92260. Do it now, for TIME IS RUNNING OUT!

Letters to the Editor

Letters requesting answers must include
stamped self-addressed envelope.



We Agree . . .

I always enjoy your magazine and am especially interested in your concern for the future use of our desert lands. There are many problems to be solved by the Bureau of Land Management. I do hope their solutions will not inhibit the feeling of freedom and adventure most of us experience on our desert trips.

There is one item I think should be of public concern that has not been mentioned in your "Letters To The Editor" section. This is the large area of formerly public land now under jurisdiction of various branches of the military and Atomic Energy Commission. I have listed only a few, and there are many more in other states.

Carrizo Impact Area and two small areas directly east, Chocolate Mountain Aerial Gunnery Range, U. S. Navy Gunnery Range in Imperial County, Yuma (Ariz.) Proving Grounds, Luke Air Force Bombing and Gunnery Range in Arizona, Marine Corps Training Area in Riverside County, Fort Irwin Military Reservation, Goldstone Tracking Station, Naval Weapons Center in the Mohave Desert, China Lake Naval Weapons Center, Edwards Air Force Base, and in Nevada the Nellis Air Force Base and the Nuclear Testing Sites which area is larger than Death Valley.

I am aware of the necessity of maintaining some of these gunnery ranges, etc., but I cannot help but feel there is over-lapping of function and usage of much of this land and it should be returned to the public domain where it rightfully belongs.

Also, what is happening to the ecology of these bombing and gunnery ranges?

JOHN A. GRIMES.
Fallbrook, California.

Editor's Note: Reader Grimes has a good point. For years Desert Magazine has written to various military departments asking the status of ranges under their jurisdiction. It is amazing how many different departments of the government one simple request goes through before you can get a negative answer. Several years ago, we asked about the status of the Chocolate Mountains. Five months later we received a reply. We are in the process of totaling the amount of acreage being used by all military

branches in California, Nevada, Utah and Arizona. When we get the total (providing we have enough adding machine tape) we will inform our readers.

Converted . . .

This morning's mail brought the May issue and I must tell you it is the most exciting issue within my memory. Previously, the lore and grandeur of the deserts and canyons have been foreign to my interests and activities. Now I realize what I have been missing all these years!

I am definitely planning to enjoy some of the God-given spectacles of Nature which your cameras have captured for Desert Magazine.

Barry Goldwater has told me something of the Utah river trips and at least one is now on my schedule.

CLIFFORD W. HENDERSON.
Palm Desert, California.



Photo of still another kiln near Pahrump, Nevada was taken by Sgt. and Mrs. R. E. Rhodes of Indian Springs, (Nevada) Air Force Base.

More Kilns . . .

The article in the April '72 issue was very interesting but the author's research is somewhat lacking. He states "It (Cochran) is one of only six places in the West where the charcoal kilns of the 1800s are still standing." He should have said "it is one of six *known* places . . ."

In central Nevada there are four locations, two of which are the stone ones, and two that are brick with adobe caps and there are two other locations within a 15 mile radius. The fourth is rather remote so is not generally known except to local citizens. I object to such definite statements when who really knows how many others might be hidden in some remote canyon.

ELEANOR C. SCHULTZ.
Hawthorne, Nevada.

I have just finished reading and enjoying Arnold Tilden's "Ghostly Kilns of Cochran" and would like to add a bit of information. There are two kilns in Pahrump Canyon, above Pahrump Valley, Nevada. One is in excellent condition, but the other is slowly going to pieces. That makes at least seven places where the kilns may be found.

RUSSELL K. GRATER.
Boulder City, Nevada.

Rainbow Bridge . . .

In your article "On The Trail To Rainbow Bridge," in the May '72 issue, you state Zane Grey first saw the bridge in 1925. Zane Grey first saw *Nonnezoshe*, as the Indians call Rainbow Bridge, in the spring of 1913. He persuaded his good friend John Wetherill to make the pack trip by horse.

Later that year, Grey says that Wetherill also led trips for Teddy Roosevelt and the Kolb Brothers of Grand Canyon fame. Zane Grey wrote of this trip in his "Tales of Lonely Trails" published by Harper Brothers in 1922.

This is the first time I've ever corrected an article for any magazine, but since I'm an avid fan of Zane Grey writings, I couldn't miss the opportunity to do so.

WILLIAM R. SALYARDS.
Upland, California.

Desert Jesters . . .

I enjoyed your article "Desert Jester" in the May issue. In fact, I would like your advice as to owning a pair of roadrunners. Where to purchase, how to house and exercise the birds and would they adapt to the Long Beach climate? Information would be appreciated and my sincere admiration for your delightful article.

I. B. HOUSE.
Long Beach, California.

Editor's Note: It is illegal to purchase or keep roadrunners in a cage. They are wild birds which belong in the wilderness. Come to the desert and watch them frolic and you will realize they should be "wild and free."

Loves Utah . . .

With the mail this morning came the May issue. We were with the group last October to travel the Mormon Trail to Hole-in-the-Rock. We love the uncrowded red rock country and visit it every chance we get.

Just home from a wonderful ten-day trip to Escalante. With plenty of gas and water and our lunch, we branched out each morning to see as much as we could in a day. We have seen Hole-in-the-Rock from both sides of the Colorado and from a boat twice. Drove the jeep through Harris Wash, across the Escalante River, down Silver Falls Creek and back to our trailer by way of Boulder. Saw Lake Powell from the top of Smokey Mountain and the old townsite of Paria, Saw Devil's Garden and the beautiful Metate Arch.

This is a part of the world where time seems to stand still . . . where you can see deer drinking at the water holes and hear water running in the creeks.

A land we never expect to cover but we are planning another trip someplace where there will be plenty of canyons and high red cliffs—where you might expect to see an Indian riding his pony homeward at the close of the day.

Looking forward to more articles on Utah.

BOB and BEULAH BIRD.
Jamul, California.

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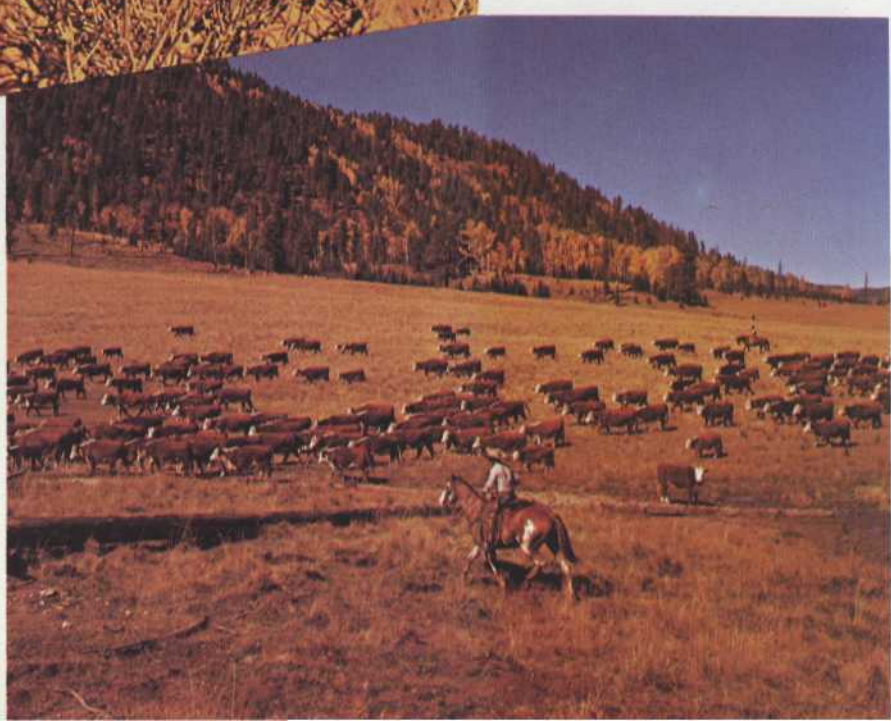
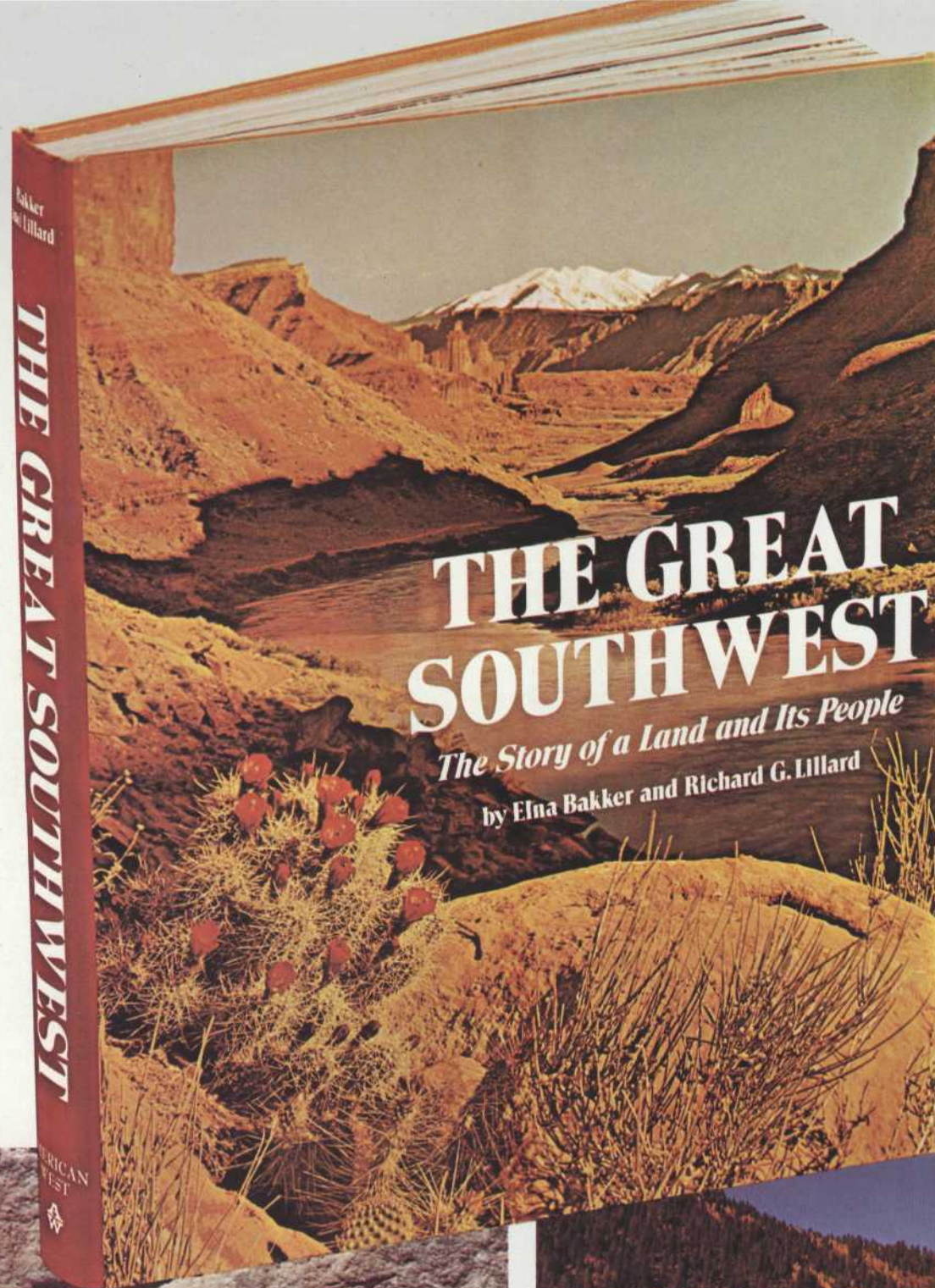
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Ancient Indian City in Chaco Canyon: figures of visitors (center right) give some idea of its size.





Few places in the world can produce a picture to equal a Joshua tree against a Southwest sunset.

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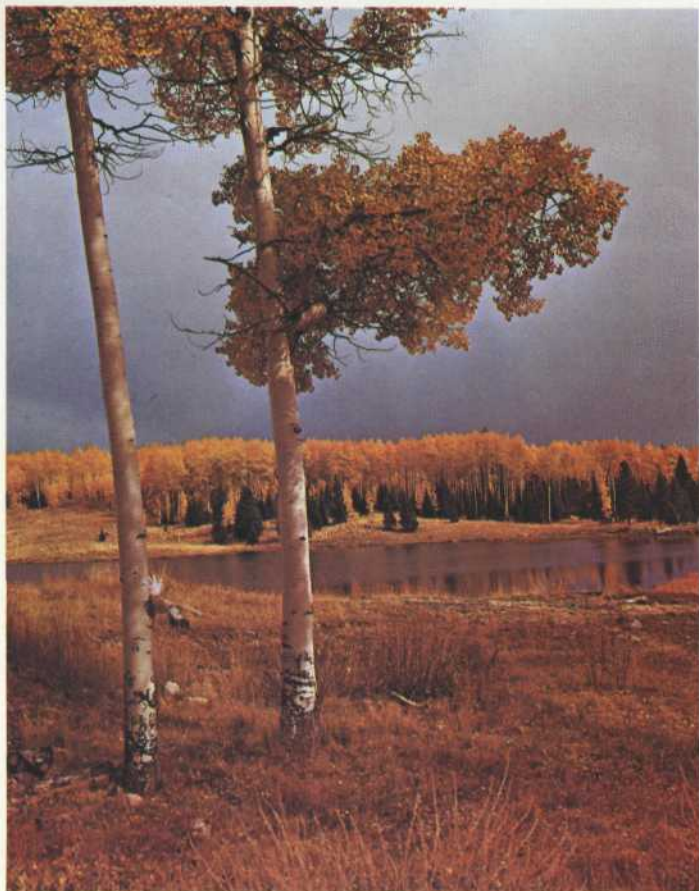
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Frederic Remington's version of Coronado's party marching north in search of the Seven Cities of Cibola.

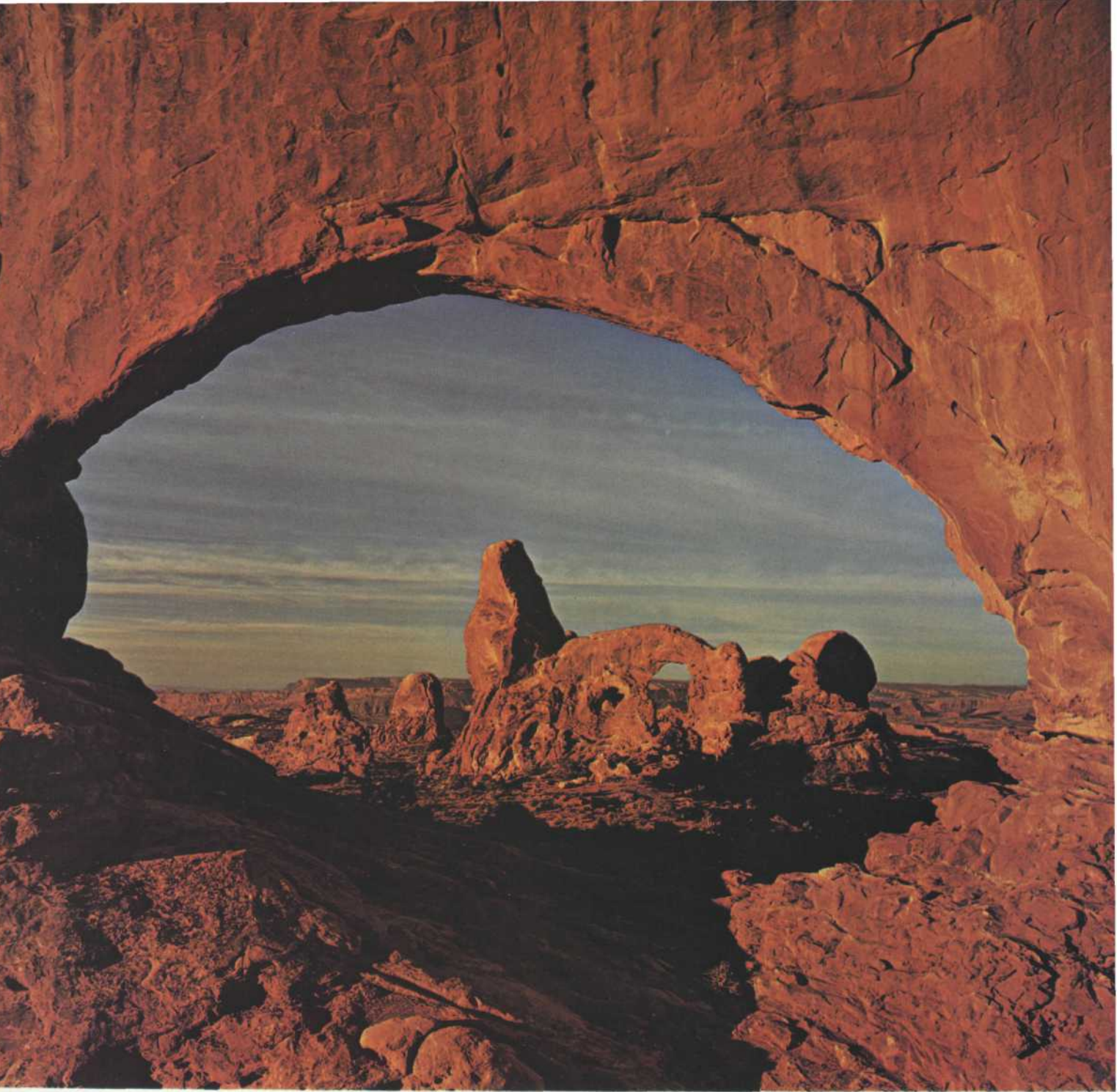




Mountain pines and aspens in fall color contrast with the stark beauty of Turret Arch to point out the varied climates of the Southwest.



THE GREAT SOUTHWEST is filled with photographs like the ones in this brochure, which can give you only a brief glimpse of the beauty and variety you will find in this fabulous volume coming September 30.



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*(Overleaf) Desert shadows
and Anasazi cliff dwelling,
Canyon de Chelly*

